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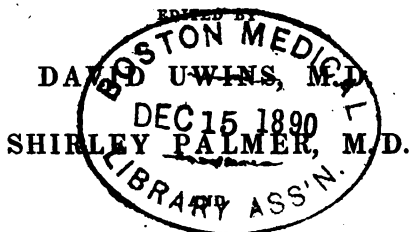
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THE  
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SAMUEL FREDERICK GRAY, ESQ.

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Quærens Verum. HORACE.

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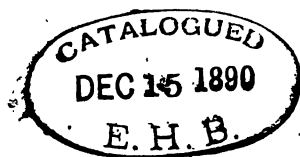
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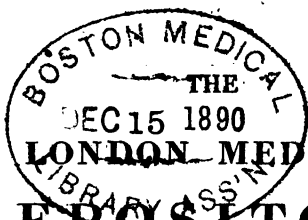
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# REPOSITORY.

No. 85. JANUARY 1, 1821. VOL. XV.

## PART I.

### ORIGINAL COMMUNICATIONS.

#### I.

*Cases and Observations, illustrative of the beneficial Effects of the Colchicum Autumnale, or Meadow Saffron, in Venereal Rheumatism, and various other painful Diseases; and of the superior Properties of the Seeds to the Root of that Plant.*  
By WILLIAM HENRY WILLIAMS, M.D., F.L.S., of Ipswich, Fellow of the Royal College of Physicians, London.

WE are told by the celebrated Frederic Hoffman, in his *Medicina Rationalis Systematica*, that venereal rheumatism was scarcely to be subdued, except by decoction of the woods, mercurial and antimonial alteratives — a mode of treatment which, however successful in some instances, has often failed in the hands of the most skilful or experienced in the Profession, both in public and private practice, notwithstanding a rigid perseverance in the use of these and other powerful medicines for a long period.

It is invariably an asthenic disease, seldom accompanied by pyrexia or hectic, occasionally by eruptions and blotches on the skin, and by nodes — always by emaciation, and by pains affecting principally the bones and larger joints.

To rheumatic affections of the above description may be attributed the dismissal of many young men from the army during our late contests with France, by which the public service was deprived of some of its brightest ornaments, the country of many of its bravest defenders, the parishes subjected to enormous expenses in providing substitutes, and the poor afflicted objects of disease doomed

to subsist on parochial relief through a painful existence, which the timely application of the remedy, on the powers of which I am about to enlarge, might have rendered actively useful to themselves, their families, and their country.

Having not unfrequently witnessed the melancholy effects of this malady, both in occasioning premature old age, and rendering the unhappy subjects of it cripples for life, it is with no little satisfaction I have been enabled, since my former communication in the 80th Number of the *REPOSITORY*, to afford not only almost immediate relief by the exhibition of the seeds of the *colchicum autumnale*, but even an early cure, to three individuals labouring under this agonizing and debilitating disease. The first of these cases will afford, I think, sufficient encouragement to the professional man and the patient, not to despair under circumstances the most desperate and deplorable. It may be necessary, however, to caution the medical Practitioner against the too sanguine expectation of the success of the *colchicum* seeds, when the patient is afflicted with acute pains in the bones or their fibrous coverings, *arising from nodes*; for in two instances under my observation, in which there was an irritable node on each tibia, the disease appeared to resist the powers of the medicine.

### Cases.

*Case 1.*—J. M., aged thirty-six, a carpenter, naturally of a good constitution, and free from hereditary disposition to disease, contracted syphilis, December, 1807, in the form of chancre, and, whilst under an alterative course of mercury, caught a severe cold. He was subsequently attacked with ague, which in a few weeks was subdued; but excessive weakness followed, with pains, greatly augmented at night, in the larger joints, eruptions of a copper colour on the forehead, and profuse perspirations. In this state I first saw him, July, 1808; and prescribed the *hydrargyri oxymurias*, *decoctum sarsaparillæ comp.*, &c. which enabled him, in a few months, to pursue his usual occupation in a distant county: but the relief was temporary; for early in the ensuing spring his pains and weakness returned, accompanied with swellings in the knees and ankles. Upon his second application to me, July, 1809, I advised a warm bath, and also the *ung. hydr. fort.*, which was used to the extent of several ounces.

This treatment again relieved him, and enabled him to seek employment in London; but from this period, for several years, he was subject occasionally to attacks of violent pains of the bones in different parts of his body, which, although they yielded in some degree to the measures pre-

scribed, were never entirely subdued. In June, 1819, he became the patient of a Surgeon in this neighbourhood, who applied every remedy adapted to his situation, among which the decoctum sarsaparillæ comp. was prominent; but, all the usual remedies failing, I was again consulted by him in July last. At that time he was a deplorable object, tormented with pains in his joints; his feet and ankles considerably swelled; breathing much oppressed; pulse quick and weak; loss of appetite and sleep; and his whole frame emaciated, and apparently verging towards the grave.

In this state, July 23, his Surgeon still in almost daily attendance, he began taking, by my advice, the vinum sem. colchici, in the quantity of a fluid dram and a half twice a day, in *water*. In a fortnight he found material benefit in every respect; and, progressively improving, at the end of two months he considered himself free from his complaint, except a slight degree of weakness. His present health is so renovated, that when he called upon me a few days since, to request my assistance in obtaining for him a public house in this town, I could scarcely believe it possible that the emaciated object, whom I had beheld a cripple four months previously, was then standing before me in comparative health and vigour. Thus a formidable disease, resisting powerful and long-continued remedies for *twelve years*, yielded to the use of the vinum sem. colchici in the short space of *two months*; and the patient declares he can now walk twenty miles in a day without the slightest consequent swelling or pain.

*Case 2.*—W. F., aged twenty-four, a blacksmith, contracted lues in the autumn of 1818, when he applied to a neighbouring farrier for relief, who was supposed to be well skilled in the treatment of this disease. In a few weeks, after taking several doses of strong purgatives, and two boxes of mercurial pills, which had no sensible effect on his gums, he was considered well. In the autumn of 1819 he was attacked with pains in his arms, the knee, and ankle joints; but by the assistance of a Surgeon, the pains, though not wholly removed, were so far alleviated that he returned to his laborious occupation. His nights, however, were very restless, by an exasperation of pain in the knees and legs. In this state he continued his work, suffering more or less from the pain, till August last; at which period, being very weak and emaciated, and obliged to give up his employment, he applied for my advice, when I prescribed, for a fortnight, the daily use of the hydr. submur., opium, antim. tart., with very little benefit. The pains becoming more severe, I directed him to take, night and morning, from one to two

tea-spoonsful of the vinum sem. colchici, which in three weeks entirely subdued his pains. Since that period, I have twice seen him in very comfortable health.

*Case 3.*—T. F., aged thirty-six, a carpenter, of a spare but healthy habit, contracted syphilis at Michaelmas, 1819. He applied to a non-professional man in this neighbourhood for assistance, and thought himself well in a few weeks; but in the spring of the present year he became languid, lost his appetite and sleep; was troubled with pains, which were greatly augmented at night, and continued, more or less, till September, when, in a very emaciated state, he applied to me. I prescribed him the pulvis ipecac. comp. daily for a fortnight, which lessened his pains in so trifling a degree, that I was induced to order him from one to two tea-spoonsful of the vinum sem. colch. twice a day, in peppermint tea. At the end of a month he entirely lost his pains, and in a great measure recovered his health and strength.

In a public and private practice, which affords me the opportunity of seeing weekly from one hundred and fifty to two hundred patients, I have sought, for several months, every opportunity of prescribing the colchicum seeds, twice or thrice a day, for the removal of those distressing pains in the back, loins, or chest, which arise either from a suspended, partial, or an irregular action of the uterus; but more especially for the relief of those anomalous pains to which young females are subject prior to the period of puberty—so frequently distressing to the patient, and the cause of so much solicitude to the anxious parents.

In all these painful affections, I have experienced the most decided testimony of the safety and efficacy of the seeds, in a greater degree than I have witnessed from the employment of any other remedy, both in removing the pains and restoring the general health. But to render the success of the medicine more certain, the state of the bowels should be particularly attended to, and the patient required to abstain from fruit, fish, broth, fat meats, eggs, pudding, and pastry—in short, from all food of a flatulent nature; as well as to diminish one half the quantity of liquids usually taken: and should such a plan, with regard to diet, be continued for some time subsequently to the removal of the complaint, a permanent recovery would be more certainly promoted. The purgative operation which the seeds now and then produce, in some constitutions, may be easily prevented from extending too far, by reducing or occasionally omitting a dose. In the diseases just alluded to, dependent often on the want of power in the uterus, I have sometimes directed the

vinum sem. colch., beginning with twenty or thirty minims, and gradually increasing them to a fluid dram; but more frequently I have prescribed the *spiritus seminum colchici ammoniatus*, noticed in my former paper, prepared by macerating for ten days two ounces of the seeds in a fluid pint of the *spiritus ammoniæ aromaticus*—a medicine, I consider, of greater value, when acidity or flatulency prevails, than the vinum sem. colchici, and better adapted to the palates of those who object to the flavour of white wine. As an instance of the efficacy and safety of this medicine, I prescribed it a few days since for a female, aged twenty-six, most severely labouring under a spasmodic affection of the trachea, attended with violent and incessant coughing, and a sense of immediate suffocation. On seeing her, I advised a fluid dram immediately, and to be repeated every two hours during the continuance of the complaint; by which, in an hour and a half, she experienced great relief, and in four hours fell into a comfortable sleep. The following morning the paroxysm had ceased; and the patient, who had taken five fluid drams, felt not the slightest inconvenience from the medicine. Two grains of solid opium had been given, with no sensible effect, two hours previously to my visiting her, by the professional attendant; who, when this young person was similarly attacked two years ago, was reluctantly obliged to administer one fluid ounce of tinctura opii, and one fluid ounce and a half of sulphuric ether, before he could overcome the spasm, or satisfy the anxiety of her friends.

I cannot conclude this paper without a few observations on the *decided superiority* of the seeds of the meadow saffron over the root of that plant—a superiority, I now consider, not merely a matter of conjecture, but proved to demonstration.

The exhibition of the root has been confined in a great measure to gout and acute rheumatism, and sometimes, doubtless, with extraordinary success; but the diversity of its operation, not referrible to dissimilar conditions of animal excitability, has rendered it an untractable, because a most capricious remedy. Sometimes it has appeared totally inert; at others, productive of sudden, long-continued, and excessive action of the stomach and bowels; and occasionally it has proved fatal. An instance of the latter occurred not long since in the hospital practice of a Physician of distinguished abilities, who, convinced that the death of one of his patients was attributable to the noxious effects of the root, assured me no consideration should ever induce him to prescribe it in future.

The colchicum seeds, on the contrary, so far from being limited in their application to two or three diseases, may be

safely and beneficially extended nearly to the whole range of painful diseases of the asthenic kind, to which I have hitherto chiefly directed their use. They seldom fail of the desired effect; and invariably operate without the occurrence of any of those distressing and alarming symptoms, so prevalent in the exhibition of the root.—In a word, no peculiarity of the constitution, no period of life, forbids the sanguine hope of success in the application of the seeds; and few articles in the materia medica are entitled to juster pretensions to uniformity of effect, or more generally extended benefit: and the abundance which various parts of this country produce will amply supply not only our own demands, however numerous, but extend their healing influence to those countries where nature has not rendered the plant indigenous.

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## II.

*Some Remarks on the Treatment of Hooping Cough.* By  
H. ROBERTSON, M.D.E.

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It is much to be lamented, that in the treatment of a disease so frequent as hooping cough, and often so fatal in its consequences, we should still remain unacquainted with any peculiar or precise plan of cure. An author of great experience and science has remarked, that it is a disease that will run its course; but admits that the use of medicine is not unavailing in mitigating its severity. In some respects these opinions are opposed to each other; because a mitigation of the symptoms will, in all probability, lead to a termination of the disease sooner than otherwise would take place. But, whether the first opinion of the progress of hooping cough is correct or not, there is certainly no subject that falls within the province of the Physician, where he is so liable to be interfered with by the officious pretensions of conceit and ignorance. For this disorder every old woman has an infallible nostrum, or mode of cure, although daily experience serves to convince us that the most boasted of these efforts are unavailing, and not unfrequently pernicious.

It is not my intention to enter into a disquisition generally on the symptoms and treatment of hooping cough. I have merely to observe, that it seems to originate by the effect of a peculiar contagion operating on the pulmonary system chiefly; thereby producing an affection of a spasmodic nature, indefinite in its paroxysms and period of duration. This is manifest by the peculiar cough that characterizes

the disease. But, although I consider the hooping cough, at its commencement and in mild cases, as a spasmodic disease, yet there are cases which at first, and others that in their course, have a great tendency to inflammation. The latter instances are uniformly ushered in with a considerable degree of fever. Indeed, such is the great tendency to inflammation in this disease, that one most important view in the treatment of it is to endeavour to obviate its occurrence by such regulations of diet, regimen, &c. as are most likely to have that effect. The next most dangerous and frequent occurrence that may supervene in the course of hooping cough, is a determination towards the head. This very often occurs with young children, when the cough is severe; and is particularly to be apprehended in all young patients, the balance of the circulation in early life having a tendency towards the encephalon. Besides, every paroxysm of coughing naturally gives a disposition to the same effect. The above are the more immediate consequences to be apprehended in hooping cough. Convulsions, by which patients afflicted with this disease are so frequently cut off suddenly, are, in most instances, unquestionably in consequence of a determination to the brain. The more remote effects of hooping cough, as phthisis, hæmoptysis, marasmus, &c., are evidently the consequences of a highly febrile and inflammatory action, unsubdued, of the system, especially occurring in scrofulous constitutions, or in subjects otherwise diseased, when there is a tendency to these affections.

According to the foregoing view of the nature and consequences of hooping cough, it follows, that in ordinary cases it will be merely sufficient to introduce so much of the antiphlogistic regimen as may be supposed necessary to obviate the consequences mentioned above. In instances, however, when the disease sets in with fever, or when fever supervenes in the course of the disease, the strictest compliance with the antiphlogistic regimen must be enforced. The frequency of the paroxysms is commonly in proportion to the degree of fever: consequently, whatever diminishes the one, naturally mitigates the other. With this view, our attention is naturally directed to the best means we know for mitigating the cough. For this purpose, anodynes of every class and description have been occasionally recommended as infallible; but, so far as my experience in these matters goes, I have unequivocally found, that when there was even but a slight celerity of the pulse in this disease, opiates are decidedly pernicious; that when, in severe cases, an anodyne is advisable for quieting the cough, and protracting the intervals between the paroxysms, the extract of bella-

donna, given in small doses two or three times in the twenty-four hours, is much to be preferred to cicuta or hyosciamus, administered with a similar intention. The frequency and severity of the paroxysms have seemed, in several instances, to be relieved by exposing the patient from time to time to the fumes of boiling tar, burning frankincense, and other odoriferous gums; probably a great deal of the virtue of frictions with oil of amber, and such matters, may be as much owing to their volatility as any thing else. Besides the use of these remedies, a determination to the skin must be kept up by warm clothing, tepid bath, gentle doses of antimony, and a gently open state of the bowels. In order to obviate any bad consequences arising from a determination towards the chest, care must be taken that the patient is not exposed to any sudden change of temperature, or current of air: at the same time, it is rarely necessary that patients of a previously sound constitution should be restricted from moderate exposure, and exercise in the open air. Children, even of feeble and irritable constitutions, do always best in this disease, who have not been previously much nursed and weakened, but have been permitted exercise out of doors, in proportion to their strength and former habits, without any restrictions of diet, or modes of living. To these observations I have to add, that of all the remedies I have found beneficial in whooping cough, frictions upon the region of the stomach with the tartarized antimonial ointment has been the most remarkable and most undeviatingly useful. The eruption on the stomach is frequently accompanied by a slight degree of inflammation about the pudenda in females, with a spare eruption of minute pimples; and on this occurring, the disease uniformly begins to abate. In cases where the patient is of a full habit, and the inflammatory diathesis runs high, it may perhaps be proper to apply a few leeches to the feet, previously to the use of the antimonial ointment. But I have used it with advantage even in cases where the fever was attended with delirium at nights. I have never seen the eruption, produced in this way, threaten the bad consequences, from gangrene, which not unfrequently supervene when blisters are applied too early in whooping cough, when the inflammatory diathesis runs high, and before blood has been abstracted. The effects of the ointment in other respects are also widely different; when it does produce an eruption, it almost always affords relief: whereas I have never seen one instance where the application of a blister has been of the smallest service in whooping cough, except after blood-letting, when there have been manifest symptoms of inflammation; otherwise, I am fully persuaded, blisters are often hurtful.

But the indiscriminate use of emetics, to produce full vomiting, or in nauseating doses, is still less ambiguous in the bad effects it has produced in hooping cough than blistering. This practice has been principally assumed upon the ingenious theory of fever long ago promulgated in the Edinburgh school; and later Practitioners have imagined they saw the propriety of the plan, from the spontaneous rejection of the contents of the stomach which so often occurs on the termination of a paroxysm in mild cases of this disease. But surely the most superficial observer must see the wide difference that is produced on the system from a vomit occasioned by artificial means, attended consequently with great nausea and sickness, and that by which at one effort the stomach is emptied, in consequence of an irritation in the top of the trachea by the force of the air in coughing. Even in this way, however, vomiting occasions disagreeable consequences. On the other hand, by the operation of emetics, the very effects we should most strenuously endeavour to obviate, (a determination to the chest and head,) have been brought on. This must naturally be the consequence of emetics, or whatever retards the return of blood from the head, or hurries that fluid through the pulmonary vessels. Accordingly, I have never seen one instance of the favourable effects of an emetic in hooping cough, purely administered for the cure of that disease, and when the stomach has not been disordered. On the contrary, I could cite many cases where they have been most hurtful. Although emetics continue to be given by general Practitioners in the treatment of hooping cough, yet the view with which they are administered does not seem so accordant as the practice. In one instance an emetic is given to determine to the surface; others administer it in order to evacuate the matter that accumulates in the lungs: but I believe these medicines are much oftener given in compliance with common opinion, without any distinct notion on the subject; for it is most seriously to be deplored, that a Profession which, of all others, least admits of mathematical deduction, is too often practised on the most superficial imitation. In regard to the power of emetics as determining to the surface, I shall merely observe, that in this disease we have much safer and more effectual means of effecting this by the remedies above mentioned.

While considering the power of emetics in evacuating the lungs, it must be held in remembrance, that the matter rejected in paroxysms of hooping cough is not the cause but the consequence of the disease. This matter is secreted, and accumulates in the larger branches of the bronchiæ, during

the intervals of the paroxysms : if, therefore, emetics in their operation have the power of throwing off this matter, it would become necessary to administer one before each attack. This is what no constitution could long endure. But, on taking into consideration the mechanism by which the act of vomiting is produced, I do not perceive how this class of remedies can have so powerful an effect as expectorants in hooping cough, as has been supposed. In the act of vomiting, it would appear, that so far from the lungs being compressed, and consequently purged of their contents, the chest is dilated during each effort. The diaphragm, in its contraction, must have this effect, while it acts in unison with the abdominal muscles in compressing the stomach. Then where is the power that vomits are said to possess in clearing the lungs? Vomits never produce coughing; the nausea of an emetic effectually prevents it. The viscid mucus about the top of the fauces must be thrown off; but this is widely different from the fluid lodged in the cavity of the lungs—often, I apprehend, in the most remote of the air-cells—and which can only be got rid of by a fit of coughing, or some other effort of the lungs themselves.

These observations merely apply to the primary stage of hooping cough; in the later or chronic period of the disease, several of the remedies I have stated as doubtful in their effects then become necessary. Occasional small blisters at this period often remove a degree of cough, that remains troublesome after all symptoms of the acute stage of the disease have passed. In this stage also, *cicuta*, *hyosciamus*, and *belladonna*, particularly the latter, has appeared to me highly useful : and although opiates are not found so generally useful as those mentioned, I have also experienced their good effects, when combined with antimony, and administered so as to determine to the skin. The bowels should be properly attended to through the whole course of the disease; an open state of them being essentially necessary to the favourable progress of the disorder : and I imagine that it is the constipating effect of opium that renders it less useful in hooping cough than other remedies of the same class.

But in this stage of hooping cough, the most popular, and as is generally supposed the most powerful, mean of stopping the further progress of that disorder, is change of air or climate. I am not disposed to dispute the advantages of this practice in a great many cases; though I believe that in almost every such instance the benefit has been derived from a different cause than the mere change of air : neither do I consider this a remedy that may be safely adopted on every occasion; or, in other words, that it is a practice which, if it does no

good, will do no harm. I have seen some lamentable instances of the contrary of such an opinion. Accordingly, when a change of situation becomes advisable, the removal should be but a short distance from home; and the new abode should be chosen in every thing resembling the former one — avoiding all elevated and exposed places, those that are too low and damp, or such as are liable to exhalations from stagnant waters or flooded meadows. Inland situations are commonly to be preferred to those on the coast; for it is to be kept in mind, that hooping cough, not only when the latter period is considerably advanced, but even when it has stopped for some time, is extremely apt to return with all its original violence from the slightest causes; as exposure on taking an airing to a more damp atmosphere than usual, even a gentle breeze meeting the patient suddenly, will bring back the cough; as also indigestion, or too great indulgence given to the appetite; and its return is not unfrequently accompanied with inflammatory symptoms. Hooping cough, like ague, hysteria, and many other diseases, is frequently kept up by the power of habit; and these are the instances where change of climate is so remarkable in stopping its paroxysms: but this, every one is aware, cannot be owing to any difference in the properties of the air itself; for, except in large and crowded cities, the atmosphere is every where the same; and even in the exceptions I have mentioned, the atmosphere is only supposed to be mixed with a greater proportion of exhalations. The beneficial effects of change of situation, in stopping this disease, must therefore arise in consequence of the interruption given to previous ideas and habits, by the impression upon the mind from new objects. This opinion seems to be confirmed from the well-known fact of the benefit derived from the frequent change from place to place, and even by the change of one room from another in the patient's house. I make this observation with the view to show, that on many occasions all the benefits of change of situation may be obtained by proper arrangements made at home; which, as already observed, is not always a plan that may be safely acted upon, and to which there are occasionally many other objections. Moreover, I am fully persuaded that many of the cures imputed to change of situation have been merely the natural termination of the disease. It is to be remembered, that, although hooping cough is indefinite in its duration, it is not interminable, neither does it always end fatally.

The above observations, on some of the most important points in the treatment of hooping cough, it is hoped, may

appear deserving a place in the MEDICAL REPOSITORY, as being the result of considerable professional experience in the matters to which they refer.

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### III.

*Observations on the Use of Warm Injections into the Uterus, and Saline Purgatives, in the Cure of Puerperal Fever, Suppression of the Lochia, Peritonæal and Uterine Inflammation, &c.* By JAMES WILKIE COLLINGWOOD, Surgeon, F.R.P.S. Ed., &c. Sunderland.

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IN the Twelfth Volume of the LONDON MEDICAL REPOSITORY, page 462, I published "Observations on the Use of Saline Purgatives, &c. in the Cure of Typhus Fever;" and promised, at some future period, to communicate my observations on their use in some other diseases. The present essay comprehends my remarks on the use of saline purgatives, and of warm injections into the uterus, in the cure of puerperal fever, suppression of the lochia, peritonæal and uterine inflammation, &c. Puerperal fever was not unknown to the ancients; but has not, until of late, been much noticed by modern writers, several of whom have given very accurate accounts of the symptoms and progress of the disease; but, owing to the variety of theories, and consequent different modes of treatment recommended, medical Practitioners have been much perplexed concerning its nature and origin, and what method of practice ought in preference to be adopted. This disease usually commences from the second, third, or fourth, to the seventh, or, in some instances, to the twelfth day after delivery. It is ushered in with cold shiverings, succeeded by accessions of heat, a peculiar tense pain over the forehead, pain and tension of the abdomen; increased upon pressure, at first without any perceptible hardness or swelling, but the latter soon takes place to a considerable extent. The pulse at first is quick, often full and strong; afterwards becoming weak, varying in frequency from 100 to 140 in a minute. The bowels, for the first day or two, are sometimes constipated; but vomiting and purging either soon succeed, or are present from the beginning of the disease. The matter vomited is often at first yellowish, afterwards resembles coffee-grounds. The fæces are highly offensive, working like yeast. A difficulty or suppression of urine comes on; the urine is dark-coloured, and exhibits a sediment not completely deposited. The mammæ, for the first day or two, are sometimes not much

altered; but the milk afterwards suddenly disappears, and they become flaccid. The lochial discharge is also generally present, and is seldom suddenly stopped; but in every case there exists a change either in the quantity or quality of the discharge. The skin is usually hot and dry; but after a few days, partial clammy sweats break out in different parts of the body; the face is flushed; the tongue dry, and covered with a brown fur; the countenance appears dejected, with a peculiar wild expression of the eyes; thirst considerable; great prostration of strength; restlessness; anxiety, and depression of spirits, which increase as the disease advances. At length several very fetid involuntary stools are passed. The patient feels much relieved; but these are only the harbingers of death. The accelerated pulse, cold extremities, &c., announce its near and certain approach, which usually occurs from the fifth to the twelfth day of the disease. Many of the most prominent symptoms of this disease are those of typhus fever and peritonæal inflammation, which, being peculiarly modified by the puerperal state, affords a probable idea of its nature and origin; more especially as the predisponent and exciting causes in typhus and puerperal fever are nearly the same. Having observed the very beneficial effects resulting from the use of saline purgatives in the cure of typhus fever, and the advantages arising from their use, and warm injections into the uterus, in suppression of the lochia, peritonæal and uterine inflammation, &c., I was led to try their conjoined effects in puerperal fever; and am happy to say, that in the cases which have come under my care, wherein they were employed, the result has been most favourable. I have selected the three following cases of puerperal fever, as comprehending some variety in the symptoms and method of treatment; and might adduce others which have occurred to me since my adoption of the remedies herein particularly recommended: but as the result has been equally favourable, I consider it unnecessary. The first case is that of Mrs. L., aged twenty-eight, who had been safely delivered of her third child. On the second day after delivery she was seized with some of the usual symptoms of puerperal fever; such as intense pain over the eyebrows, soreness of the abdomen, prostration of strength, quick pulse, sickness, and diminished lochia. The bowels were constipated, and the state of the mammæ not much altered. I immediately threw a warm injection into the uterus; and one ounce of the sulphate of magnesia, dissolved in four ounces of aqua pulegii, was given to the patient. The former brought away some clotted blood, and afforded much ease; the latter

opened the bowels, and somewhat relieved the febrile symptoms. On the second day of the disease, however, most of the symptoms were increased. Vomiting and purging came on; the stools were highly fetid; the lochia almost wholly suppressed; tension, pain, and swelling of the abdomen considerable; the eyes and countenance had no peculiar appearance; tongue foul and dry; great thirst, with difficult micturition; and the pulse was upwards of 130. I again injected the uterus, and warm fomentations were applied to the abdomen. The injection was followed by the discharge of a quantity of fetid matter and air, from which the patient expressed much relief. I ordered the effervescing draughts to be exhibited every hour, until the sickness and vomiting had abated; after which, a saline cathartic was given. The injection was repeated every four, and the saline purgative about every twenty-four hours, till the fifth day of the disease; when the lochia were increased; pain in the head; pain and swelling of the abdomen considerably diminished; the fæces had become more natural; and the milk began to return to the breasts. The injection and purgative were afterwards only occasionally employed. Great debility, however, remained for some time after, which, by the use of tonic medicines and nutritive diet, gradually disappeared; and on the fourteenth day from the commencement of the disease I pronounced the patient convalescent.—Mrs. F., after a hard labour, followed by profuse uterine hæmorrhage, and where cold applications had been used to a very great extent for its suppression, was affected, on the third day after delivery, with symptoms much resembling those of Mrs. L., in the preceding case. On account of the youth and robustness of the patient, quick and full pulse, &c., and conceiving that a degree of uterine and peritonæal inflammation had already taken place, I bled her to the extent of eighteen ounces, and gave her a saline cathartic. The blood drawn exhibited the buffy coat; but the patient did not experience any advantage from its abstraction. On the following day I did not repeat venesection, as the tension and swelling of the abdomen were much increased; the pulse had become small, and upwards of 150 in a minute; great prostration of strength, restlessness, and a slight incoherency of speech also prevailed. The bowels were constipated, the lochia completely suppressed, and the mammæ flaccid; I therefore employed the warm injections, which brought away a large quantity of clotted blood, and afforded the patient much relief. The saline cathartics were also exhibited with benefit. Sickness and vomiting did not occur until the third day of the disease,

and were successfully combated by the effervescing draughts. These remedies, with a few palliatives, were occasionally used through the course of the disease, which, however, was protracted to the twentieth day. As purging did not occur spontaneously in this case, the cathartics were very largely exhibited. Mrs. H., for the first three days after an easy labour, felt quite well; but on the fourth a severe pain of the head and bowels occurred, and most of the other symptoms of puerperal fever soon made their appearance. The lochia were much lessened in quantity. Warm fomentations to the bowels, and saline cathartics, although they somewhat relieved general symptoms, did not increase the lochial discharge. Warm injections were then had recourse to with great advantage; but the pain of the abdomen continuing severe, I was induced to apply a blister: under the occasional employment of which remedies, the cure was completed on the twelfth or thirteenth day of the disease.

With respect to the utility of general blood-letting in puerperal fever, I am much of the same opinion as in typhus; viz. that if admissible, it must be at the very commencement of the disease, and where the patient is young and plethoric. In the case of Mrs. F. its use appeared to be indicated; but it gave no relief, and her recovery was very protracted. Indeed, all general abstractions of blood from the system, in pure puerperal fever, as occurring in hospitals, or from contagion in private practice, where there is no suppression of the lochia, and the disease has existed for even twenty-four hours, must be highly prejudicial, and, in the words of Professor Hamilton, of Edinburgh, "is completely signing the death warrant of the patient." Topical blood-letting by leeches, &c., when early employed, may be useful, where local inflammation is severe. Blisters, in conjunction with the other remedies, may also sometimes be had recourse to with advantage. Opiates, as liable to increase delirium, seem contra-indicated; but they may occasionally be given with the effervescing draughts, to allay irritation of the stomach: of their further use I have not had much experience. Sudorifics have been recommended; small and repeated doses of the neutral salts may, as such, sometimes be useful. Of the use of emetics I cannot speak with confidence. Tonic remedies, as cinchona, &c., are of advantage in the decline of the disease; and I have never employed them otherwise. Cleanliness, ventilation, nutriment, &c., are highly necessary, and ought to be strictly attended to throughout the whole course of the disease. In the diagnosis of this malady, a total suppression of the lochia has been

mentioned by some; whilst others deny that the lochia is ever wholly suppressed, and consider this as a prominent diagnostic symptom from other diseases which it nearly resembles. A mature consideration, however, of all the symptoms of puerperal fever, will, I think, in general, be sufficient to distinguish it from the other puerperal affections; more especially the peculiar pain of the forehead, wild expression of the eyes, great prostration of strength, and general presence of the lochia, although usually much diminished in quantity, and changed in quality.

Suppression of the lochia is a complaint of frequent occurrence. It generally takes place about the second or third day after delivery; is attended with sharp symptomatic fever, violent pain in the abdomen, sickness, and sometimes difficult respiration. My method of treatment in this disease was by occasional venesection, the frequent exhibition of saline cathartics, and warm injections, aided by warm fomentations to the abdomen, and repeated every two or three hours, till the pain was relieved, and the lochial discharge had returned.

Peritonæal inflammation is attended with soreness and pain of the abdomen, according to the severity and extent of the inflammation; and as the disease advances, many of its symptoms much resemble those of puerperal fever, from which it is in some instances very difficult to make the distinction; but the total suppression of the lochia, and absence of the leading pathognomic symptoms of puerperal fever, already mentioned, will in general be found sufficient. Having, from a due consideration of these symptoms, ascertained the difference, I employed general and sometimes topical blood-letting early in the disease, warm injections, fomentations, and saline purgatives, as in the two preceding complaints, with the addition of blisters to the abdomen, and some few other remedies; under which treatment my patients have all hitherto recovered.

Inflammation of the uterus, when it occurs, is usually after hard labour, &c., or sudden exposure to cold. The attack is early; seldom beyond the fifth day after parturition. A sense of fulness, burning heat, weight, and pain, referrible to the womb, which latter is increased, *à tactu*, with the symptoms of pyrexia, usually distinguish this disease. Suppression of the lochia, sickness, &c. are also present. When neglected, it may extend to the peritonæum, with which it is, indeed, sometimes at first conjoined. Repeated copious venesection, according to the urgency of the symptoms and constitution of the patient, a frequent use of the warm injections and fomentations, liberal exhibition of saline purgatives, and the application of blisters, are chiefly to be depended on in

the cure of this disease, and when judiciously employed, seldom fail. Where internal uterine hæmorrhage has existed *post partum*, the os uteri is frequently plugged up with clotted blood, which, on being retained for some time, becomes putrid, and is often productive of very alarming symptoms; viz. pain of the abdomen, restlessness, accelerated pulse, delirium, &c. Warm injections, and the occasional exhibition of a saline purgative, are in these cases of the most decided advantage.

Milk fever is another disease in which the saline cathartics have been found useful. I have already noticed a number of the different remedies which have been recommended in puerperal fever; and stated my own experience in the cure of that disease, suppression of the lochia, peritonæal and uterine inflammation, &c. I shall now make a few remarks on those remedies which I have more particularly recommended. In those puerperal affections of which I have treated, it will in most instances be found, that the lochial discharge is either deficient in quantity, changed in quality, or wholly suppressed; and as its return is always considered a most favourable occurrence, it is evident that the use of any means that may tend to bring about that object must be highly desirable. Warm injections into the uterus, acting upon the general principles of the warm bath, tend to relax the muscular fibre, relieve pain and inflammation, promote the lochial discharge, and cleanse the uterus from any offensive matter that may be therein contained. The injections, composed of warm water, milk, oil, &c. at the temperature of from 80 to 90 degrees, were exhibited, by means of a syringe constructed especially for that purpose. The general state of the alvine excretion in puerperal fever might, by some, be thought to contra-indicate the use of purgatives; but the rapid putrid tendency observed in the course of the disease seems to require the expulsion of every thing from the system that may have an effect in increasing or favouring that disposition. Saline purgatives will, therefore, be particularly serviceable; for, in addition to the general action of purgatives, they promote the discharge of a larger portion of the serous fluids from the vessels of the intestines, relieve inflammation, ultimately bring about a natural state of the fæces, and also prove diuretic, diaphoretic, antiseptic, and refrigerant. The sulphate of magnesia, in doses from half an ounce to an ounce and a half, in solution, as a purgative, I always preferred. But in the advanced stages of puerperal fever, where purgatives cannot be so frequently employed, it may be given in small and repeated doses, in order to produce its other effects.

In the other affections of which I have treated, the use of

saline purgatives will be more generally admitted. The employment of these remedies, according to circumstances, promises to be of much service in many of the diseases of the puerperal state. Those cases which more particularly demand the warm injections will be obvious. Indeed, whenever any morbid change or suppression of the lochia, or irregular feverish attacks, occur in women, after delivery, as it is impossible to say to what length these, if neglected, may go, immediate recourse ought to be had, according to circumstances, to the remedies recommended.

As it is not improbable that suppression of the lochia, peritonitis, &c. may sometimes give rise to or be conjoined with puerperal fever, and as some of these affections have not unfrequently been confounded with, and indeed cannot always be accurately distinguished from that disease; the means recommended will in such cases be found useful, both as general prophylactic and curative remedies.

## IV.

*On the Word Calomel.* By J. H., Liverpool.

IN consequence of seeing a paper on this subject in the *REPOSITORY*, I beg leave to state, that the application of the word Calomel was given to the preparation which bears that name under the following curious circumstance:—In 1550, Sir Theodore Mayerne practised medicine at Paris, after this in London and Amsterdam. He it was who dulcified mercury so finely as to make it a delicate and safe cathartic, (well known to all now by the name of calomel,) certainly not a good appellation for so white a powder; but the little *negro boy*, who served Sir Theodore, and was a favourite with his master, had worked so diligently with him in this new and neat process, that he gave him the *honour* of hearing it called *pretty black* by all the contemporary Chemists.

N. B.—Sir Theodore Mayerne is the Doctor Caius of Shakespeare.

## V.

*Case of Enteritis, with Remarks.* By ALEXANDER M'CARTHY, M. D.

—[Communicated by Dr. JAMES JOHNSON.]

THE disease termed enteritis is of such consequence to the practical Physician, that every fact which tends to elucidate its pathology, or ensure any additional certainty of subduing it, requires but little apology for trespassing on the public attention.

The remarks of Dr. Abercrombie in the Edinburgh Journal, and the observations that followed in the London Chirurgical Review, No. 2, are of great interest to the Profession. In the science of medicine, the safest mode of establishing theory is by reasoning from practical facts. Every Practitioner of experience must acknowledge, that Dr. Abercrombie has bestowed much laudable attention on this subject; and however different opinions may be with respect to the exact state of the diseased bowel, all agree that inflammation, (to use a fashionable expression,) is the radical cause of all the mischief. I perfectly agree with the ingenious Physician, (Dr. A.) that a state of the intestine occurs which forbids the use of purgatives, and requires a very different plan of treatment: this fact I am convinced of; and have no doubt but several cases of this disease have occurred from the use of drastic purgatives.

In the 9th volume of the Edinburgh Journal, Mr. Smyth has related four cases in which he used cold water in various ways, both externally and internally, in addition to the usual remedies. I have lately put this plan to the test of experience, and I am able to speak most favourably of the result. I abandoned altogether the use of purgatives or laxatives, whilst the irritability of the stomach was urgent; I gave the coldest water as drink, and applied cold wet towels repeatedly to the abdomen. After their use, the suffering patient expressed great relief, and felt much composure; which enabled me to give a full opiate, combined with a liberal dose of calomel. This, with prompt and judicious blood-letting, I have found the most certain mode of subduing this formidable malady. I will illustrate this with the following case; and I hereafter propose to offer some further observations on the subject.

October 30th, 1820. Jeremiah Hourahane.—Oct. 21st. A healthy robust young man was seized yesterday morning, whilst at work in his farm, with severe rigour, severe pain in the umbilical region, occasionally great torture, constant vomiting, and hiccough; countenance ghastly; tongue dry and parched; pulse 80, full, and oppressed; skin cold; remained for twenty hours without medical assistance; was once bled in the arm; drank some warm wine and whiskey without advice; no alvine evacuation for the last two days; complains of great thirst, and a burning sense of heat along the course of the alimentary canal.

Fiat venæsectio ad  $\text{℥xxx}$ . sanguinis è brachio.—Habeat, pro potu aquæ fontis gelidæ ad libitum; necnon applicentur pannæ linneæ ex aqua gelida madidæ regioni abdominis.

R Fol. Nicotian. Tabacci, ʒss.

Aquæ Hss. Infunde super ignem spatio semihoræ; dein cola, et injicietur pro enemate.

October 31st.—Passed a very bad night; no abatement of pain; some relief from the cold applications; constant hic-cough; facies pallida; P. 140, durus, L. sicca et sordida.

Rep. venæsectio usq. ad deliquium animi. Con. Lavationes frigidæ  
R Opii Pulv. gr. ii. Submur. Hydrargyri, gr. xx. ft. pilulæ  
duæ, statim sumendæ.—Rep. enema ut antea.

Evening visit.—The stomach retains cold water now, which he has drunk freely during the day; pain not so urgent; had some sleep; no alvine discharge; P. 130, and sharp.

Applicetur vesicatorium abdomini.

Nov. 1st.—Feels better this morning. Experienced great relief from the cold drinks; pain considerably abated; some mercurial soreness at his gums; blister operated well; no alvine discharge.

R Sulphatis Sodæ, ʒii.

Aq. bullientis, lb.

Acidi Sulphurici diluti, ʒi. M. Capiat ʒii. omni hora, donec alvus responderit.

Evening visit.—His bowels have been freely moved; pulse 100; increase of saliva; total absence of pain.

Omit. medicamenta.

2d.—Feels better in every respect; is convalescent.

## VI.

*Cases of Chicken-Pox.* By WILLIAM JACKSON, Sheffield,  
Member of the Royal College of Surgeons, London.

CONCEIVING that the following cases tend to disprove the opinion of the identity of chicken-pox and modified small-pox, I shall be obliged by their admission into the REPOSITORY.

On the 14th of last June, Ann Woolhouse, a child twenty-one months old, was brought to me by its mother, having irregularly scattered over the body a vesicular eruption, which made its appearance three days before, without having been preceded by any constitutional disturbance claiming the notice of the mother. This child had never been vaccinated, nor had it ever been subjected to the small-pox, naturally or by inoculation. The vesicles are perfectly pellucid, and of sizes differing from one to two lines in diameter; and appear

to be in various stages of progress. Those which are full and at the height present the appearance of blisters resulting from a scald, whilst others are puckered and shrunk; and on passing a finger over these last no hardness or swelling is felt; otherwise than the roughness occasioned by the shrivelled state of the cuticle. There is considerable redness surrounding each of the vesicles; and in no part of the body are they confluent, although they are more numerous in the face and abdomen than in any other part of the body.

In this case the contagion was evidently traced to a neighbour having had a child (now convalescent) labouring under a similar disease; but there are not, nor had there been lately, any cases of small-pox in that quarter of the town in which these children lived. It must however be observed, that small-pox has been prevalent in Sheffield, in various degrees, during the last two years and a half.

On the 15th the eruptions had become opaque, and rather inclining to a straw colour; and several had disappeared, leaving no elevations except the irregularity occasioned by the drying cuticle. The pustular character was not observed in any stage of this case. 16th. The incrustation had considerably advanced, and there was no appearance of additional vesicles.

*Case 2.*—James King, fifteen months old, had slight febrile symptoms on the 9th of June; and on the 10th a papular eruption appeared in different parts of his body, the constitutional disorder having previously disappeared. 11th. Very small colourless vesicles were seated upon the papulæ, which were generally surrounded by redness; and this erythema was extensive and continuous in those parts on which the vesicles were crowded, especially about the nates. 12th. The vesicles which first appeared were full, whilst others were advancing; and thus during three or four days there were the appearances of papular vesiculæ in various stages of progress. On the 14th and 15th the eruption had gradually declined; leaving, however, more of the tubercular state in those parts on which the vesicles had been seated than in the former case.

*Experiments.*—Four children were selected, from two to five years of age, of which, one had had small-pox naturally, one had been vaccinated, and two were totally unprotected. On the 11th of June, limpid serum was taken copiously from the vesicles of Ann Woolhouse, and carefully inserted by numerous punctures and scratches into the arms of the above children. On the 13th and 14th the situations of the punctures were marked by slight elevations and redness; and there

was a feeling of hardness on passing a finger over them ; but on the 15th, 16th, and 17th, these appearances had gradually subsided, without having excited any constitutional disturbance.

The Profession stands highly indebted to the labours of Drs. Thomson and Monro and Mr. Cross, especially as those labours have been directed to an explanation of the anomalies of small-pox and chicken-pox. But I cannot go so far with the first indefatigable and learned author as to suppose, that small-pox and chicken-pox are the same disease, differing in character, under the influence of varied causes of modification; and I dissent from him for the following reasons:—

1st.—It has been, I believe, generally admitted, that small-pox, under any of its modifications, as well as the undisguised disease, is communicable by inoculation. But chicken-pox, as described by Mr. Bryce, cannot be so communicated, either to those secured by previous vaccination or to others; for although Willan states that chicken-pox had been communicated by inoculation, yet later attempts, since the disease has been more accurately defined, have failed.

2d.—The occurrence of genuine chicken-pox previous to the individual having been protected, or before any assignable cause can have produced a modified disease.

3d.—There appears to me to be a wide difference in the character of the eruption of modified small-pox and chicken-pox; for it would seem that there has not yet been sufficient attention paid to the distinctive character of vesicles. A limpid or watery fluid may be contained in a pellucid or in a thickened and opaque covering. In the former state the vesicles are as complete as they are in the latter; but here the cuticle is thick and dull, as if there were a deposition upon its inner surface, or, what is more probable, the cutis also is elevated. Now, in the genuine varicella we have the contents of the vesicles colourless and limpid, combined with a clear and fine state of the cuticle. This distinction is frequently ascertainable by puncturing what appears to be a genuine pustule, when its contents will flow out as clear as the tears. Such vesicles will frequently be found on the front of the thighs, near the pubis, in cases of small-pox; nor have I observed any depression in the centre of these vesicles, although the pustules on other parts of the body were characterized by them.

The credit of vaccination has been unassailed during the prevalence of the severest epidemic small-pox experienced in this town since the promulgation of that great discovery. The cases, which have been numerous, of modification by the

vaccine disease, have preserved that character so well described by Mr. Bryce and Dr. Abercrombie.

I have experienced the most decided advantages in the treatment of small-pox, from blood-letting; and when employed early and decisively, it has almost invariably appeared to have had the effect of producing a mild and distinct disease, although the symptoms indicated a severe and confluent one. One fatal case of small-pox succeeding satisfactory vaccination has occurred in this town during the last year.

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## VII.

*Case of Chorea, &c. with an Account of post mortem Appearances.* By JAMES COPLAND, M.D., Walworth, Member of the London College of Physicians.

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— Pritchard, the subject of the following case, was attacked, at the age of nine years, with acute rheumatism. Soon after his recovery, chorea St. Viti supervened. I was then consulted, and saw him, along with the Practitioner (Mr. Carrol) under whose care he had been placed. Brisk cathartics, followed by cinchona and the ol. terebinthinæ, were recommended; with directions to apply a blister along the course of the spine, if the disease did not yield in a few days. He perfectly recovered within a fortnight, without resorting to the blister; and continued to enjoy good health for a considerable time. Above six months after his recovery I was again requested to see him. I found him complaining of violently acute pain in all the muscles of voluntary motion; considerable heat of surface; the face and extremities anasarcaous; with orthopnoea, palpitation, and great pain at the region of the heart. His pulse was 130, irregular, and oppressed; bowels slow; urine in small quantity, and turbid. The pain and morbid sensibility existed in an unusual degree in every part of the body; the slightest touch, or attempt at motion, caused him to utter distressing, but subdued screams.

The exquisite pain in the region of the heart, the palpitation, and the quick, irregular, and oppressed pulse, induced me to consider this very acute attack of rheumatism not confined to the voluntary muscles, but that it also extended to the heart; while the difficulty of breathing, the œdematous countenance, the nature of the pulsation felt at the left breast, and the scanty urine, led me to think that effusion within the pericardium had also taken place.—He was blooded largely,

and entirely by leeches, applied over the sternum and left breast. To this a large blister, in the same situation, succeeded: it was repeated.

Purgatives alone were at first exhibited; they were afterwards combined with diaphoretics and narcotics. To these followed diuretics, as digitalis, spirit. æther. nitric. &c. Under this plan of treatment the disease, considering its severity and complication, yielded, contrary to our expectation. His recovery was rapid, and at the same time apparently complete. He continued going to school during eight months, without making any complaint. About nine weeks ago I was again desired to see him. He had become again seized by chorea, similar, in all its symptoms, with the attack from which he had recovered fourteen months before. The unexpected recurrence of the disease led me to inquire minutely into his state. His mental faculties were perfect; his senses completely so; his head was well formed, the pupils of the eye in their natural degree of contraction, and readily sensible to the varying degree of light. He had never complained of headach. The pulse quick and irregular; bowels slow; and urine in rather smaller quantity. In answer to my inquiry concerning his state of health, during the last interval from disease, he expressed himself as having been perfectly well, with the single exception of frequent thirst.

From the experience of the good effects of the plan of treatment pursued in his former attack of chorea, it was resumed in this; but without benefit.

The ol. terebinthinæ, differently combined, and always in large doses, was next resorted to; but it produced no further advantage than copious evacuations. Mercurial preparations combined with diuretics were afterwards prescribed. The disease, notwithstanding, continued to gain ground; and within a few days he lost completely the use of all the muscles of voluntary motion. I again examined him minutely. The functions of the brain were perfect; his senses unimpaired; the pupil readily contracting as before. Sensation over the whole body was perfect; although the muscles were flaccid, and incapable of contraction, unless by weak and irregular twitches. The head and limbs assumed any position to which their gravity inclined them, and which the voluntary action of the muscles was insufficient to overcome. So complete was this loss of motion, that he could not articulate, and respiration was chiefly effected by the agency of the diaphragm. I carefully examined the vertebral column, by pressing between the vertebræ; but there was less pain evinced than I expected. The pulse 125, irregular, and

oppressed; bowels slow, unless when moved by medicines; urine scanty, and rather high coloured; appetite greatly increased. The supervention of this more violent form of disease induced me immediately to consider it as deriving its origin from effusion, either upon or between the membranes of the spinal chord. Keeping this pathology in view, the following treatment was directed:—

A large blister, extending from the lumbar region to the nape of the neck, was applied, and kept open in the lower half of its extent for nearly a fortnight: during that time it discharged most profusely. Mercurial preparations combined with diuretics were prescribed at the same time, and continued, variously combined, without producing any beneficial effect. The mental powers and senses of the patient remained perfect; and his appetite continued to increase to a state of voracity. After five weeks of this wretched existence he suddenly expired.

I was assisted in the inspection of the body by Mr. J. Boast, a Practitioner in the vicinity. The gentleman with whom I had attended was prevented from accompanying us.

Having made an incision from the top of the sacrum to the occiput, through the integuments over the spinous processes of the vertebræ, the muscles were divided on each side. They appeared uncommonly flaccid and pale. The spine was entered by sawing on each side, between the transverse and spinous processes, close to the roots of the latter. No sooner had I introduced the elevator, in order to raise the divided portion, than a turbid serum flowed from the canal. After having completely cut into the cavity, the segment that was intended to be removed required to be dissected from the dura-mater of the chord, in consequence of very thick and irregular depositions of coagulable lymph upon its exterior surface. This deposition, however, was still more copious upon the interior of the canal itself; and in many places it extended like bands across the turbid serum, and joined that deposited upon the membrane. This coagulated lymph surrounded about two-thirds of the dura-mater, but was much more copious in that part of the cavity immediately under the spinous processes. Towards the bodies of the vertebræ it was comparatively free. The serous membrane covering the sides of the canal itself appeared more than usually vascular. The quantity of serum was considerably more than two ounces; which, with the coagulated matter, had impressed upon the chord a sensible appearance of compression. Upon removing it throughout its whole extent from the cavity, and examining it closely, no diseased appearance could be detected in its structure.

On opening the abdomen, about five ounces of serum were found. The stomach and intestines and the urinary organs were perfectly healthy. The mesenteric glands were slightly enlarged; and the liver was gorged with black blood, but natural in its texture.

Upon entering the thorax, the pericardium was found distended, and the heart enlarged, and floating in about six ounces of water.

On examination, its right auricle was filled by one large and firm coagulum of black blood, which broke with a glossy fracture, without exhibiting any appearance of fibrine. The ventricle of the same side contained a small quantity of blood, possessing a similar character. Its muscular tissue appeared more flaccid, and thinner, and of a whiter fibre, than I had ever before witnessed. It was exactly like the muscles of a white-fleshed animal.

The left side of this organ presented a very complete specimen of hypertrophy. Its serous membrane, externally, was covered in one place by a large clot of coagulated lymph.

Upon entering the cavities of this side, the auricle was considerably enlarged, and thickened in its texture. The ventricle appeared not much increased in capacity, but was greatly thickened in its substance. When compared with the ventricle of the opposite side, it was not less than four times the thickness of the former. It was natural in its colour, but of more than usual vascularity.

The time to which we were limited, and my own engagements, prevented me from inspecting the brain. I regret this; although, the healthy manner in which the functions of that organ were performed up to the hour of death, did not admit a doubt, in my mind, of its perfect soundness.

### VIII.

*Researches on a Disease, hitherto little known, which has received the Name of Softening of the Brain.* By L. ROSTAN, M. D.

[The following very valuable paper has been transmitted by Dr. PALMER, for insertion among the *original* articles. Important as the essay is, we have nevertheless felt reluctant that it should take the precedence of those papers which lie by us, from our own correspondents: and we have, therefore, trespassed this month upon other departments of the Journal, in order to meet the wishes of our able coadjutor, without any British sacrifice to foreign excellence. Our readers will be gratified to hear, that it is Dr. PALMER's intention "to accumulate a fund of valuable cases and memoirs for the future Numbers of the REPOSITORY—the productions of well-known writers, from the French, German, Italian," &c.—EDIT.]

EVERY medical Practitioner owes to the science which he cultivates the tribute of his observations. In submitting

those which I am now about to present to the judgment of my contemporaries, I have taken every possible precaution to preserve my mind from the influence of preconceived opinions. In order to avoid imparting to my inquiries any tincture of my own peculiar views, I have, instead of recording the cases myself, confided them to students of known talent and information; willing rather to sacrifice some useful shades in the portrait which I am about to trace, than incur the injurious suspicion of having perverted truth. My respect, indeed, for it, has been such, that I have merely confined myself to the correction of some negligences of style in the record of the cases. These facts I offer to the reader, as guarantees of the accuracy which I have introduced into my inquiries.

By some persons I may, perhaps, be reproached for not having quoted more largely from authors. My reply is, that I propose to give my own observations—not those of other men. The pleasures of compilation may devolve on those who are so unfortunate as to have nothing of their own to offer: and from the bibliographical researches which I have already made, I have learned nothing satisfactory, except that this disease is a modern discovery; of which several persons appear to have caught a glimpse nearly at the same time, although no one has yet written professedly on it\*.

It is now about nine years since a patient exhibiting all the symptoms of an apoplectic seizure, was carried to the infirmary of la Salpêtrière. The Physician whose visits I then followed as a student, pronounced it to be a case of sanguineous extravasation; and my acquired confidence in his diagnosis did not allow me to question its accuracy in this instance. But what was my surprise, when, instead of extravasation, I found only considerable softening of a portion of the cerebral substance! This morbid change, which I had never before observed, struck me so much, that my attention was directed almost exclusively to it. I spoke of it to several experienced Physicians, some of whom objected that such an alteration could not have suddenly taken place. Some, again, asserted that it was a nervous or serous apoplexy; and others, that what I had observed was merely an effect of temperature, or of the violence inflicted in breaking up the cranium. Certain, however, of having met with a morbid alteration, I remained

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\* Justice requires me to observe, that there exist some dissertations in which this disease has been spoken of. Morgagni has cited a few instances of it; Rochoux, in his valuable Monograph on Apoplexy, has treated on cerebral softening; and by Dr. Abercrombie, in his Memoir on Chronic Inflammation of the Brain, by Bricheteau, and Moulin, it has been indirectly noticed.

unshaken by these objections; and resolved to pursue my inquiries with increased attention. Fresh opportunities ere long presented themselves; and I found the same morbid changes in numerous subjects, connected with the same symptoms. The most striking example of this kind was one which shortly after presented itself at la Salpêtrière, during Dr. Landré-Beauvais' excellent course of clinical lectures. An aged woman was brought in, stricken with sudden insensibility, and completely hemiplegic. The degree of coma, intelligence, sensibility, and contractility, were carefully noted; and, on dissection, one whole hemisphere of the brain was found softened, and of a rose colour. One hundred students had seen the patient, and more than fifty witnessed the dissection. This case was not lost on me. Like every one else, I had been struck with the signs of apoplexy; but I had, moreover, remarked a symptom to which no attention had been paid. On asking the patient where she felt pain, she made no reply, but directed, slowly and with difficulty, to the head, the hand which continued moveable; she even endeavoured to give it this direction mechanically, without being solicited. I knew not, at that time, the value of the sign; but its importance will presently be seen. It is a singular remark, and deserving of note, that when the Physician for the first time observes a patient of this kind, he is struck with and regards only the apoplectic symptoms; so that if, after death, an inquiry be made, whether there existed any shades capable of distinguishing the two lesions, he will not reply that he did not observe them, but that they did not exist. In some instances, I have distinguished this morbid alteration in the living subject, apprized certain persons of it, and concealed from the student charged with recording the case its diagnosis, and the latter has seen only apoplexy, and accurately described it. I might even cite all the cases of which I myself have kept a record to a certain period; they are all entitled *apoplexies*, and the symptoms which are traced indicate nothing else. Persons, on the contrary, who are apprized of the diagnosis, distinguish the march of the disease, and more correctly delineate it; after a certain time, they become capable of distinguishing it themselves. The students who follow my visits are now tolerably expert in this way. It is then necessary to be able to distinguish, during life, two organic alterations so very different. Here there are great difficulties to be surmounted. It may be asserted, that destruction of the same part must give rise to the same change in the function over which this part presides; and by this reflection I have been frequently discouraged in my researches: but persuaded, at last, that from different causes different

effects must result, I persevered in the inquiry, and am now able to distinguish this lesion with nearly as much probability as other organic alterations. It is rather on the progress and fugitive shades, than on pathognomic signs, that this diagnosis is founded. The communication now published is designed to spare the reader the labour which I have incurred in reaching the point where I am now arrived—an object the more important, as all Practitioners are not placed in a situation equally favourable to such researches.

CHAPTER FIRST.—*Description of the Disease in its simple and regular State.*

This disease affects the encephalon, and is constantly characterized by softening of a part of its substance, and frequently by a change of its natural colour. Hence it would appear easy to find an expressive and harmonious word whereby to designate this alteration; but I have in vain referred to Greek lexicons with this view, and shall abandon to others the honour of the enterprise. I do not, like Dr. Abercrombie, give to this morbid change the name of *chronic inflammation of the brain*; because the disease is by no means invariably chronic, and I am not even convinced that there is always inflammation. For this last reason I have rejected the term *encephalitis*, which in some cases it seems to merit. I have, therefore, determined to leave this disease the same periphrasis by which it is already known, and which designates its principal phenomenon. All diseases should, in fact, be named from the kind of alteration which they induce in the organs; till then, the language of medicine is doomed to confusion. I shall, therefore, call the disease in question *softening of the brain*.

*Symptoms of the Disease.*—Two very decided periods may be distinguished in cerebral softening. The *first* offers only those vague and scarcely observed phenomena which are common to many affections, in themselves of little value, but acquire great importance, and strongly characterize the disease, when manifested by the symptoms of the second stage: they are even of such consequence, that when they do not exist, or are unobserved, the diagnosis becomes excessively obscure. One or two of these phenomena only often appear; and they commonly suffice to indicate the species of cerebral lesion, when the symptoms of the second period commence. The following are the precursory phenomena:—The patient has sometimes a fixed, obstinate, intolerable pain in the head, which usually resists every remedy, and continues several days, or even months: this pain does not invariably occur, but when existing, may lead to the apprehension of cerebral

softening. Vertigo renders the progression of the patient vacillating; the faculties of intelligence become more obtuse, the perceptions slow, the judgment difficult, memory weak and faithless, imagination extinct, and ideas confused. The replies, however, are correct, but after long reflection, and slowly delivered; elocution may be embarrassed. At other times, the patient expresses himself with brevity; his temper changes; he becomes dejected, silent, querulous, sometimes indifferent; he is frequently drowsy; and, although not irrational, his intellect is evidently no longer natural; those around commonly consider him as slightly deranged. With these symptoms, are observed tingling and numbness in one of the extremities, commonly about the fingers; difficulty of seizing objects, or stiffness, amounting frequently to contraction. The sensibility of the limb is not always proportionately diminished, but sometimes increased so as to render the slightest touch productive of pain: these pains, as invariably unattended with redness, heat, and tumefaction, cannot be confounded with rheumatism. The intellectual faculties are not always impaired; they may even be perverted and augmented. Delirium sometimes occurs, and extreme agitation, with pyrexia. In fine, insanity and senile dementia frequently precede softening of the brain, as observed by myself, and shown in the cases of Georget\*.

I have rarely seen intolerance of light and strabismus preceding this lesion; but diminished or perverted vision, and even complete blindness, are frequent precursory phenomena. Tinnitus aurium often exists, and the least noise is intolerable; but more commonly the hearing is impaired. The smell and taste seldom offer any very sensible alterations: and in this stage, most of the phenomena just described are so slight, that the patient does not solicit advice for, or even mention them. Their existence is sometimes only ascertained when, in the second stage, the patient continues sufficiently rational to give an account of his preceding state. Again, as I have already said, and shall hereafter prove, all the symptoms do not occur at once in the same individual. Some may object, that all the phenomena just enumerated are also the precursory phenomena of apoplexy. The distinction which may be established, and appreciation of each of these symptoms, will be seen in the article on diagnosis.

Such are the alterations which I have observed in the organs of sense, intelligence, contractility, and animal sensibility, during the first stage. I have been anxious to fix the atten-

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\* De la Folie, page 490.

tion of the reader upon them, because of their high importance in diagnosis. Unfortunately, on being called to an individual suffering from this disease, he is very rarely in a state to give the requisite information; and the attendants are obviously incapable of supplying the defect.

The organic functions, during this stage, are frequently deranged. The appetite is impaired; thirst urgent; digestion bad; mouth clammy; and tongue white. There is nausea, and even vomiting of green bilious matter: the epigastrium and whole abdomen are tender: diarrhoea sometimes occurs; but constipation, or rather torpor of the rectum, is more frequent. *Defecation* is rarely involuntary; but, in most cases, there is inability of retention, and scantiness of the urine. Respiration is seldom disordered; yet the patient sometimes complains of its tightness, and it is oftener retarded than hurried. The pulse is very variable, seldom accelerated; in some cases developed, in others slower than natural. The symptoms, which the other functions, absorption, exhalation, the secretions and excretions, and nutrition, may exhibit, afford nothing constant or remarkable. Some violent phlegmasia, thoracic or abdominal, occasionally precede the cerebral disease. I have sometimes seen it ushered in by general inflammatory diathesis. All the viscera were inflamed; the lungs hepatized; the pleurae covered with false membrane; and the intestinal canal inflamed throughout. Such instances are rare. It is more common to see the symptoms of the second stage occur in a subject who has been attacked with severe enteritis or peripneumony. I shall record a case of this latter description; but I have witnessed a case of the former sufficiently singular in its circumstances to merit a summary statement. The phenomena presented by the organs or functions of individual life are, after all, much less important and worthy of attention than those of the animal life. (See the Cases.)

*Second Stage.*—After having presented some of the signs just delineated, the patient loses, suddenly or gradually, the use of one limb, sometimes half the body. If in the erect posture, he falls; and if recumbent, sometimes tumbles from his bed. Generally, consciousness and intellect are preserved; but infinite difficulty is experienced in answering questions, and his conceptions are only expressed by automatic movements. In some cases, but not commonly, there is perfect coma. When this occurs suddenly with paralysis, consciousness is usually restored the day after; and the inexperienced Physician fails not to applaud his treatment. But the illusion is soon dissipated: the symptoms recur in an aggravated form; the intellect and senses are utterly abolished;

perfect coma succeeds; the limbs become motionless; and the patient dies commonly on the fourth or fifth day, presenting, in most cases, *the symptoms of low fever.*

During the course of the disease, the state of the limbs is not the same in all cases. The most frequent is, doubtless, that of impaired or destroyed contractility; and the limb is paralyzed. Numbness, weight, prickling, and intolerable shooting pains, aggravated by touch, are often felt in the affected member. Extreme stiffness and contraction of the diseased side are also at some times observed. The forearm is bent on the arm, the hand on the former; and much difficulty is encountered in restoring the limb, even momentarily, to its natural state. A convulsive condition of the extremities is much more rare. In some few cases there are general or partial convulsions.

The face may be pale or much flushed, according to circumstances, which will be mentioned. The headache, previously existing, grows more violent, or comes on, if it have not been felt before. On inquiring which is the painful part, the patient, after the first, but frequently after the second or third question, directs the moveable hand to the head, and, what is remarkable, almost always precisely to the seat of the disease, and the side opposite to the paralysis. Delirium, when supervening, continues after the manifestation of the paralysis; but is then more silent.

Yet delirium is not a common symptom. In most cases, there exist stupor, impaired intelligence, and coma. If the encephalon be in this state, the senses are commonly implicated, become less sensible to their natural excitants, and towards the last cease altogether. The eye still sometimes continues sensible to light; the pupils contract on approach of a candle; and one of them may be more dilated than the other. The eyes are commonly fixed, motionless, and turned upward; and the head usually bent back. The hearing becomes dull, never more acute, in this second stage. The sensibility of taste and smell is almost invariably decreased. The mouth is rarely contorted at this period, but afterwards becomes so. The touch probably undergoes similar alterations; but it is difficult to ascertain this positively. The patient has frequently carphologia, and attempts to draw together the bed-clothes.

The thirst is commonly increased; appetite lost; lips and teeth dry; tongue rugous, chapt; at first red, and afterwards brownish or blackish. Deglutition is often difficult, almost impracticable; the efforts at the act sometimes convulsive. In some cases, copious vomiting, first of food, subsequently of bile; frequently great abdominal tenderness; sometimes invo-

luntary discharge of fæces, more frequently constipation; unconscious escape of urine; respiration often tight. The pulse is, in some instances, accelerated and stronger than ordinary.

*Progress of the Disease.*—The condition just described may remain stationary, at least in appearance, for awhile; after which the disease proceeds rapidly to death—the ordinary issue. At other times the progress is evident from the first, and goes on gradually increasing. The signs of coma and paralysis rarely diminish at an advanced period of the affection; I have seen it but once: hence the case may be ranked among those whose march is anomalous. The fatal symptoms fail not to recur. The progress of the disease is then essentially continuous. There nevertheless occur evening paroxysms in cases where the patient presents other symptoms of phlegmasia. The face then reddens, the heat augments, and the pulse is developed: the patient almost constantly reclines on the back, or the paralysed side, during the whole time. The scene commonly terminates with all the phenomena of low fever. Nature, which respects not our artificial divisions, exhibits in this disease not only an acute and chronic character, but almost every intermediate shade. One may distinguish its acute progress, and predict a more prompt termination, when the symptoms proceed with violence and rapidity. If they be slow, the fatal period will be more remote.

Such are the phenomena which the disease presents in its simple and regular state. The reader will have already been struck with its peculiar physiognomy. I have omitted some unimportant and useless details. In order to render more striking what has just been said, I shall cite some cases exhibiting the disease in its utmost simplicity. In the article on diagnosis, I shall appreciate, not only the value of each of the principal symptoms, but show, as clearly as possible, wherein the disease of which I am now tracing the history differs from other cerebral affections most strongly resembling it, and with which it may be confounded.

*Cases of Softening of the Brain, the Symptoms of which have proceeded in a regular and simple Manner.*

**FIRST CASE.**—A widow, aged seventy, of dry constitution, had for a year experienced numbness of the lower limbs, arising without evident cause, and increasing so as to impede the functions of the extremities. The legs were, in fact, dragged in progression, particularly the left, in which also the numbness was most felt. The sensibility of neither was impaired, nor was any difference in their form perceptible.

The cause of this affection seemed to have acted on the patient's mental faculties so that she passed for having her intellect slightly deranged: yet she heard, and replied directly to questions; but rarely took part in conversation. The organ of intellect seemed no longer to be in a condition to pause long on the same object.—July, 1819. The woman experienced weight of the head, with transient vertigo. 15th. She fell from bed, and the skull received the principal shock; but she was insensible neither before, during, nor after the accident. The headach, subsequently increased, was complicated with symptoms of gastric disorder.

August 1st.—She was admitted into the infirmary; and presented general debility, headach, loss of appetite, dry mouth, red and dry tongue, constipation, warm humid skin, and frequent pulse. Abdomen soft; respiration free; no cough. Some hours afterwards, a paroxysm with delirium so violent as to necessitate the employment of restraint. She did not speak; but agitated her arms, and tried to get out of bed. The delirium continued several hours, and recurred the three following days nearly at the same time, but was of shorter duration. 5th. No delirium; the agitation succeeded by a calm, or rather a remarkable insensibility. Reclination on the back; body nearly motionless; head thrown back; face slightly inclined to the right; eyes half open, and turned upwards; teeth set, and lips open; limbs extended: this position continued till death. She spoke only when questioned repeatedly, and with a loud voice: her replies were difficultly uttered and imperfect. 6th and 7th. Same state. Features decidedly altered. Constipation not relieved by injections. Epigastrium painful. 8th. Patient invariably answered in the affirmative, when asked if her head was painful. I requested her to point with her hand to the part; but it was not till after three or four times' loud repetition, that, without any change of posture, or other reply, she slowly drew from the bed her right arm, directed her hand to the vertex, withdrew it over her forehead, and let it fall back. Attempts to extort a fresh reply were useless. The organ of intelligence seemed to have relapsed into the state of torpor from which it had been momentarily roused. 10th. Teeth sooty, set; lips blackish, always open; tongue red and dry; pulse accelerated, intermittent; constipation obstinate. 11th, 12th. Face shrunk. Death on the 15th.

*Dissection, twenty-four hours after Death.*—External:—Body emaciated. Head: Cranium fragile. Bloody points on surface of the dura-mater, consequent on rupture of vessels in detaching the calvaria. The arachnoid might be readily and clearly detached from all parts of the brain, except the

internal, middle, and superior portion of the *right lobe*. This was the seat of an alteration the more interesting, as it had been predicted. The cortical was confounded with the medullary substance, and both so softened as to present the aspect of a greyish jelly. The convolutions, every where else very strongly marked, were here effaced to an extent of three inches and a half in circumference. This morbid change was not exactly circumscribed; it extended more anteriorly than backward, and occupied nearly the whole portion of brain which serves as a roof to the lateral ventricle; this, as well as the opposite cavity, contained a little serum. The right corpus striatum exhibited a rose colour; but no other sensible difference from the other was observed. The right optic thalamus was also slightly softened. The morbid change of the right hemisphere could not be regarded as the result of old extravasation: for, 1st, it was not circumscribed, and presented not the peculiar yellowish colour which indicates extravasation; and, 2dly, it was not enclosed in a membrane, which forms another distinctive character of this alteration. The whole of the left lobe of the brain and the cerebellum were sound. The medulla oblongata was sensibly depressed from before backward, in consequence of the unusual projection formed by the processus dentatus in the foramen basillare. Thorax: Traces of old pleurisy of the right side; two purulent cysts, communicating together in the summit of the superior right lobe. Left lung sound. Parietes of the left ventricle of the heart thickened, and cavity consequently contracted. Origin of the aorta ossified. Abdomen: Gastric mucous membrane much loaded.

SECOND CASE.—A woman, aged 70, had for several years taken refuge in la Salpêtrière, in consequence of blindness. Her health had been usually good. In July last, she began to complain of weight and some inexpressible sensation in the head, and intimated a dread of apoplexy. No further information of her preceding state could be obtained. July 21st, she was admitted into the infirmary, with violent head-ach; but its seat was not precisely indicated. The eyes were closed; the state of the pupils could not obviously be consulted. Features altered; mouth open; coma; left side motionless; sense of great weight in the corresponding arm; respiration sonorous; all questions unanswered. Fifteen leeches to the neck; purgative injections; stimulant pediluvia. 22d. Same state: the sound arm directed sometimes to the head, sometimes to the cardiac region, where the pulsations were unusually strong; oppression; frequent high pulse. Venesection; blister to the nucha. 24th. Reclination on the

back; profound coma; mouth open, without being drawn awry; features lengthened; left side insensible; patient making constant efforts with her hand in every direction, as though to seize some object on the coverlet; can hear; shows her tongue when asked; and points to the right side of the head, as the seat of pain, as also constantly to the epigastrium. Skin cold; respiration short and hurried; tongue contracted, red, thick, cracked, dry; urine at first retained, afterwards almost continually escaping. Sinapisms to the feet. 25th. Worse; general insensibility. 26th. Prostration; facies Hippocratica; burning skin; strong frequent pulse; moaning and hurried respiration. Died in the night.

*Dissection.*—Heart flaccid; its cavities, particularly the right, remarkably large; aortic valves slightly ossified. Stomach containing a yellow bile-like fluid; its mucous membrane here and there brown. Small intestine in several points greatly contracted, and filled, as was also the cœcum, with deep yellow viscid mucus. The membranes of the brain were sound. The circumference of the organ presented a kind of tumefaction, probably dependent on the warmth of the atmosphere. Left hemisphere healthy. On incision of the grey substance of the posterior lobe of the right, the whole was found reduced to a soft and almost fluid pulp. The white substance, as far as the level of the ventricle, shared the alteration. The posterior part of the anterior lobe was also visibly softened; and it was only at the centre that the cerebral structure resumed its natural aspect. Cerebellum unchanged. Optic nerves flattened, wasted, reddish, and presenting the aspect rather of a small arterial tube than of a white chord, as in the natural state.

**THIRD CASE.**—A widow, aged seventy-eight, was admitted into the infirmary, September 25th, 1819. For five days she had complained of vertigo and incipient paralysis, which, however, did not prevent walking. Soon afterwards the left side was paralysed; and the patient gradually sunk into the state which she presented Jan. 28th, 1820. Reclination on the back; complete paralysis of the left side; face drawn to the right; tongue's point inclined to the left. Vision good; pupils little contracted, the right more than the left. Hearing clear; sensibility of the paralysed side somewhat impaired, though not extinct. Tingling and pain in the paralysed limbs: never has experienced headach. Intellectual functions unaffected; answers correctly every question. All the other functions natural, except that the contents of the rectum and bladder are unconsciously discharged. A few days after, a slough formed on the integuments of the sacrum, and

spread rapidly. Feb. 8th. Final struggle commencing; pulse tumultuous, nearly imperceptible; hurried respiration; carphologia; subsultus tendinum; delirium. Death on the 10th.

*Dissection.*—Feb. 13th, 1820. On removing the cranial integuments, was found, opposite the superior angle of the occipital bone and a little lower, a mass of yellowish dense cellular substance, creaking beneath the scalpel. Close adhesion of the membranes of the brain to the bones, particularly in the course of the sutures, and opposite the superior angle of the occipital bone. Some limpid serum in the basis crânii; and sudden depression of the posterior lobe of the left cerebral hemisphere. The whole lobe, including the posterior horn of the left lateral ventricle, converted into a sort of pulp, without a vestige of organization. Both ventricles were sound; but in the substance of the right hemisphere, several traces of old extravasations, distinguished by the formation of the adherent yellow membrane. Amid these, a slight softening in the centre of the medullary substance, and extending to the roof of the ventricle. An old vestige of extravasation in the superior part of the tuber annulare. Other organs not examined.

**FOURTH CASE.**—A woman, aged seventy-three, well formed, of sanguine temperament, married and a mother, was admitted into the infirmary Jan. 19th, 1820, senseless and almost without motion. From the report of her attendants, she had been attacked, about eighteen months before, with apoplexy, succeeded by complete hemiplegia of the left side; and the use of her left limbs had been subsequently, but imperfectly, restored. About the 18th of the present month she had become suddenly insensible, with loss of motion; and now presented the following condition: She appeared strange to every thing around; yet, when questioned respecting her pain, she tried to raise her hand to her head, and to show her tongue, when requested. Decubitus on the back; left limbs perfectly immoveable, but sensible on being pinched. Head thrown back; face flushed; eyes tearful, half closed; lips open and shut alternately; tongue thickly furred, blackish grey, particularly at the base, dry and cracked; mouth clammy; incessant thirst; deglutition difficult, and accompanied with suffocative cough, consequent on admission of liquid into the trachea. Abdomen painful on pressure, tense, and hard; constipation; urine abundant. Respiration sonorous, sometimes executed with puffing of the cheeks and elevation of the whole thorax. Pulse strong and frequent. Skin hot, and sometimes bathed in sweat. Prescription: Diluents; blister to the nucha; purgative injections. Symp-

toms for awhile relieved; subsequently aggravated. Death on the 28th.

*Dissection.*—Cranium: Remarkable softening of the posterior and part of the middle lobe of the right cerebral hemisphere, extending nearly from the great fissure to the circumference, and from summit to base. Near the centre of the anterior, at its union with the middle lobe, traces of an old and extensive extravasation with its membrane. A little serum in the lateral ventricles. Cerebellum less firm to the right than the left. Marks of an old extravasation in the left crus cerebelli, near its insertion into the pons varolii. Thorax: Heart large, and adherent to the pericardium at its apex. Abdomen: Gastrocolic (large) omentum and mesentery, containing much greyish white fat. Stomach contracted, and, like the intestines, perfectly free from inflammation. Ovaries in complete atrophy.

FIFTH CASE.—A woman named Godet had attained her eightieth year, without serious disease. She had menstruated at eighteen, married at twenty-one, and borne four children. At forty-four the menses gradually ceased, without disorder. After admission into the hospital, she complained only of asthma, an affection so common to advanced age. She had never suffered headach, and retained free use of her limbs; yet for some months she had used the left arm in preference to the right. June 29th, after a good night, she fell from her bed while dressing; and, when taken to the infirmary, exhibited the following symptoms: Intellect clouded, but not so much so as to prevent reply to some questions. She remembered distinctly the circumstance of her fall, which was caused by giddiness, never before experienced. In order to obtain an answer, it was necessary to fix her attention by speaking aloud. She did not always finish her sentences. She could collect only a few ideas; and if urged to speak long, the incoherence of her replies was obvious. The right arm was motionless; face red; pulse full and frequent; surface warm, but moist; tongue red, and a little moist at the apex and borders, furred whitish at the base; bowels constipated. Prescription: Twelve leeches to the neck; dose of sulphate of soda; purgative injections; abstinence. July 1st. Apparently better. Attention more readily fixed, and answers more connected. Arm somewhat less difficultly moveable; face always flushed; pulse full and frequent. Other functions regular. Venesection; sulphate of soda. 2d. Same: two stools. 3d. Tongue black and dry; circulation conspicuously deranged; pulse either slow and irregular, or hurried and intermittent; ideas clouded; diarrhoea. 4th.

Features sunk ; ideas incoherent ; pulse as yesterday ; abdomen painful on pressure. 5th. Symptoms aggravated. Death on the 6th.

*Dissection.*—Emaciated. Cranium: Bones natural. Bloody points on the surface of the dura-mater. Convolutions of brain strongly marked ; little serum in the ventricles. Both corpora striata softened, and yellowish areolæ in the anterior portion of the left. The medullary stratum connected with this part of the brain, and contributing to form the roof of the ventricles, remarkably softened. Some slight traces of softening on the opposite side. Cerebellum tolerably hard ; in the interior of its left lobe, the very centre of the arbor vitæ, a blackish red point, of the size of a pea, and enclosed in a distinct membrane. Thorax: Traces of chronic peripneumonia in the superior lobe of the left lung. Heart very large ; left ventricle much dilated, and thicker than usual. Points of ossification in the orifice and arch of the aorta. Abdomen: Gastric mucous membrane somewhat red, but wholly free from inflammation.

SIXTH CASE.—Dec. 30th, 1819. A stout woman, of sanguine temperament, and aged sixty-seven, was brought to the infirmary with complete suspension of the senses and loco-motion. At the age of thirty-six, she had been seized with insensibility and general paralysis, which had continued twenty hours. From this period the patient had experienced, at intervals, severe pain in the right arm, which swelled, and became completely useless. She also felt frequent suffocation, which she attributed to gout. On the 30th of Dec., at evening, after a dispute with one of her companions, she lay down, complaining of headach. Next morning, at four o'clock, she was found in a state of perfect coma. On my visit that day, she presented the following phenomena: Face much injected ; skin warm ; mouth closed ; jaws immovably set ; reclamation on the back ; pupils contracting as usual. Frequent efforts to speak, but the power utterly lost ; right limbs completely paralysed and senseless. Respiration difficult and sonorous ; no cough or expectoration. Treatment: Irritating injections ; sinapisms to the legs. Jan. 1st. No change. Blisters substituted for the sinapisms. 3d. Constipation. Purgative injection. 4th. Incipient slough on the sacrum : constipation still. 5th and following days. Countenance gradually changing. She follows persons with her eyes, and seems to know them. 11th and 12th. Slough enlarging. Profound sleep during the day. 13th. Same state. Violent erysipelas round the blister of the left leg, which was consequently suppressed. 14th. Features expressive of pain, and lank ; alæ nasi pinched ; eyes dim,

tearful, and hid beneath the lids; respiration short and moaning; face covered with a clammy sweat. Death that evening.

*Dissection.*—A path of ossification, one-fourth of a line thick, and three fingers' breadth across, on that part of the dura-mater corresponding to the left anterior lobe of the brain, and on the surface in contact with the arachnoid. All the vessels loaded, and cerebral substance hard frozen\*, and, at first sight, not sensibly altered; but after removal of several slices of the left hemisphere, softening of the whole middle lobe, and part of the anterior and posterior, was observed. The morbid portion, of a greenish yellow colour, was separated from the sound by a distinct greyish white line of demarcation. In the midst of the softening existed an old extravasation of blood. The corpus striatum, softened, displayed traces of apoplexy of ancient date. The cerebellum loaded. All the other internal organs sound.

SEVENTH CASE.—A widow, named Chenet, aged nearly eighty, robust, with broad chest, large head, and short neck, had, in 1816, been stricken with severe apoplexy, and experienced, during that year, some recurrences of that affection resembling intoxication. There were some varicose ulcers on the legs. Sept. 22d, 1817, she came to the infirmary, in consequence of headach and loss of appetite. Abstinence and diluents prescribed. That night she was delirious, and got up. Next day, countenance somewhat stupefied, but sensibility and intellect unimpaired. Headach; inappetence; constipation; pulse febrile: respiration and other functions natural. An emollient injection. About 10, A. M., seized with complete loss of consciousness, movement, and sensibility. The occurrence of apoplexy was inferred, and derivations alone directed. 23d, at night, I found the woman perfectly insensible; her face livid, and covered with cold and clammy perspiration. Features decomposed; respiration stertorous; pulse low; deglutition impracticable. Blisters added to the former prescription. Night, same state. Died next morning.

All those who had seen the patient did not for a moment doubt that she had been destroyed by apoplexy, and expected to find considerable sanguineous extravasation. Convinced by preceding observation, that all reputed apoplexies are far from offering this result, notwithstanding the resemblance of the symptoms, I represented to the students that I did not consider it to be a case of real apoplexy. Yet, had it not been for one symptom, I should certainly have

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\* The temperature of the atmosphere was at this time very low.

bowed to the opinion of the gentlemen present: I mean the delirium, which caused me to suspect the existence of acute inflammation of the brain or its membranes, of which I had recently met with several instances.

*Dissection* confirmed my opinion.—To the great astonishment of the spectators, we found, independently of traces of inflammation of the arachnoid, the whole central part of the right hemisphere converted into a pulpy mass. The cortical substance was red; and we found between the optic thalamus and corpora striata, a cavity invested with a yellowish membrane, such as has been described by M. Riobé, and containing a violet grey coagulum, of the bulk of a filbert; the result of a former extravasation. The encephalitis had, doubtless, been here the cause of death, and, perhaps, the old extravasation the cause of the phlegmasia, and of the other symptoms to which the patient had been subject.

This case very clearly demonstrates the high importance of observing symptoms, and of directing our attention on all the circumstances which precede or accompany diseases\*.

## DEPARTMENT OF NATURAL HISTORY, &c.

*Calendar of Fauna, Flora, and Pomona, kept at Hartfield, near Tunbridge Wells.* By Dr. T. FORSTER. From the 1st to the 30th of November, 1820.

Nov. 1.—Raw, cold, rainy weather. Few things remain in flower; here and there blooms a solitary specimen of *Senecio Jacobæa*, *Achillæa millefolium*, or some of the *Ranunculi*.

2d.—The House Martlet (*Hirundo urbica*) seen this autumn.

3d.—Fine day, with common stackenclouds, followed in the evening by much wanecloud, which ushered in a hard frost.

16th.—A white frost, followed by a damp day, with much cloudiness. The scent lay remarkably well to-day; a circumstance which, however it may more properly belong to the sportsman, must be, nevertheless, an interesting object of research to the natural philosopher, as the causes of the variability of scent, (dependent, certainly, in a great measure on the atmosphere,) have never been clearly elucidated. Some sportsmen declare that scent is never good with a high barometer. Being possessed of instruments which

\* Nouveau Journal de Médecine, tom. ix. — We shall proceed with the valuable memoir of Dr. Rostan in our next Number.—EDIT.

are capable of indicating very minute peculiarities of the atmosphere, I usually note down in my diary, when opportunity of observation occurs, those days when scent lies well, and compare this circumstance with the results of my meteorological observations.

20th. — For the last month past, hæmorrhagies, particularly bleeding from the nose, have been unusually prevalent in this part of the country.

30th. — Several plants remain in flower; but as these are merely scanty instances of late blooms, I have forborne to note them individually: it is a thing which always happens in mild winters. At Christmas, I shall give a list of all such as remain in bloom.

*[This Journal is to be continued in the neighbourhood of Tunbridge Wells.]*

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## PART II.

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### ANALYTICAL REVIEW.

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#### I.

*Outlines of Midwifery; developing its Principles and Practice; with Twelve Lithographic Engravings.* By J. T. CONQUEST, M.D., F.L.S., &c.

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"It has been generally admitted," says Dr. C., in the prefatory discourse to the present publication, "for a long time past, that a small publication, containing the outlines of the principles and practice of modern midwifery, to which reference might be made under circumstances of difficulty, either in the study or lying-in room, is much wanted: indeed, so general has been the expression, that it has led to this attempt to supply so important a desideratum in medical literature; and whenever the author has been disposed to relinquish his intentions, he has been prompted to persevere by the reminiscence of many seasons in the novitiate of his profession, when such a publication would have been to himself a source of infinite satisfaction and relief."

Allowing the above statement respecting desideratum to be a correct one, the work before us cannot be regarded as superfluous; and the only remaining question will be as to its execution; of which the reader must judge from the general sketch of its contents, which we are about to present.

Dr. Conquest is known to the Profession, and is at least beginning to be known to the public as a successful candi-

date for the award of credit in that particular part of the Profession to which he has devoted his time and talents: this little volume comes therefore into the world with no inconsiderable promise; and we can conscientiously recommend its possession and perusal to all students in midwifery, who may be desirous of knowing more of its contents than our space can give them. The first division of it being anatomical, we shall of course pass over, and shall proceed to extract, for the benefit of the junior and inexperienced Practitioner, the first piece of practical direction that the tract contains.

*“ Directions for Introducing the Catheter.”*

“ This operation, simple as it may appear, is one which is generally very awkwardly performed. This is in some degree attributable to the existing circumstances which demand the use of this instrument. From the connexion of the bladder and the uterus, the former inevitably rises with the latter during the progress of utero-gestation, and often becomes thrown considerably forward; and the same thing occurs in women having distorted pelves, or pendulous bellies, independent of pregnancy; so that the urethra becomes elongated and preternaturally curved. It is also thrown very much out of its natural course in the procedentia and inversio uteri.

“ That position is best, both for the patient and medical man, which gives him the most command of parts; and consequently, without any exposure of person, the woman may lie on her back, with her knees elevated, and separated. The operator standing on her right side, with the catheter previously oiled in his right hand, is to convey his left hand over the right thigh, and with the index finger to separate the labia and nymphæ; and to discover the clitoris. The catheter, held in the right hand of the Practitioner, is now to be carried under the patient's thigh to the orificium urethræ; which may generally be easily found by allowing its extremity to follow the under finger of the left hand downwards, about an inch below the clitoris, till it arrives at a semi-circular prominence, about a third of an inch before reaching the upper edge of the orificium vaginæ. It then usually slips into the urethra; but sometimes into one of the large lacunæ, found at its entrance.

“ Under circumstances already alluded to, and in some cases of protracted labour, such is the elongation and distortion of the canal, that a male flexible catheter is requisite.

“ And here it may be noticed, that such is the alteration in the relative situation of parts in procedentia and inversio uteri, that although the catheter must be introduced and carried forward to the pubes, with the point directed in the usual course, yet, when it has reached the symphysis, its handle must be so elevated towards the abdomen, that the extremity of the instrument should be directed towards the knees.

“ Under other circumstances, such as the bladder being over

the pubes, when the abdomen is pendulous, the handle must be as much depressed immediately after the point has cleared the symphysis pubis.

“Female catheters are usually too little curved. Previously to being used, the instrument should have its stiletto withdrawn, and a moistened bladder tied on the extremity of its handle; into which the urine may flow after the introduction of the catheter into the vesica. This plan would obviate the almost unavoidable necessity for wetting the bed, as the operation is commonly performed.”

On the obscure subject of conception, Dr. Conquest speaks with somewhat more confidence, perhaps, than he is justified by our defective knowledge of the actual rationale of the process. He is not a convert to the sympathetic theory, but talks of the male semen being transmitted *through* the uterus by the fallopian tubes. This is most probably a correct view of the subject; and the recent experiments in comparative physiology would serve to strengthen the evidence in favour of the doctrine: but still we can hardly admit that this theory of conception stands on such firm ground as to admit of absolute predication.

When treating of painful menstruation, we were surprised to find our author silent on the subject of the extract stramonii; half grain doses of which will sometimes prove serviceable, when other anodynes and narcotics fail.

The first perception of the foetal movements on the part of the mother, is termed quickening; a circumstance about which there has been much misunderstanding, both with the Profession and the public. Legislative enactments have even been founded upon the mistaken assumption, that at the time of quickening the vital principle is imparted to the foetus in utero; and that purposed injury done to it after this change, involves the perpetrators of the deed in much more criminality than prior to the particular change in question. We begin to be a little more physiologically correct in our notions of foetal vitality than the above opinion supposes; but still there may be some difficulty in explaining the actual cause of the phenomenon, of which the following explanation is proposed by Dr. Conquest.

“Quickening, or the first perception of the foetus in utero, is referable to the sudden starting of the uterus above the brim of the pelvis, and to the pressure of that organ on the iliac vessels being suddenly taken off; in consequence of which the blood rushes below, and a temporary exhaustion of the vessels of the brain follows; therefore it is that women often faint on this occurrence taking place.”

For our own parts, we should be disposed to attribute the sensorial affections consequent upon this foetal change, to that sympathy which is so intimate between the uterine and

nervous systems. It is pretty generally known to our readers, that we are not so vascular in our pathological notions as are some of our contemporaries; and that we believe symptoms and feelings are often charged upon the blood-vessels, which, in truth, belong rather to the sentient portion of the frame.

We were glad to find Dr. Conquest pretty full on the subject of *retroversio uteri*; because we believe that the occurrence of this accident often occasions much embarrassment to the tyro in midwifery, especially when he is so situated as to be out of the reach of professional assistance. We shall extract the whole of what is said by our author under this division of his subject.

"*Retroversio uteri* is that displacement of the uterus which occasionally takes place between the third and fourth months of pregnancy, before the uterus has escaped above the superior aperture of the pelvis. It consists in the fundus uteri (which should incline upwards) being thrown downwards below the promontory of the sacrum, and pressing on the rectum; whilst the os and cervix uteri are forced upwards and forwards, either against or over the symphysis pubis; and it is most commonly attended with constipation, tenesmus, and retention of urine.

"*Causes*.—An over-distended state of the bladder, which presses down the rectum; and, from its connexion with the uterus at its neck, naturally elevates that organ as it rises in the abdomen. This is the most common, but not the only cause, of this mal-position of the uterus; which, perhaps, though never dissociated from distended bladder, may nevertheless be produced by powerful mental emotions, provided the uterus, either by impregnation or disease, be enlarged to about the size it attains between the third and fourth month of utero-gestation.

"*Treatment*.—The regular employment of the catheter is the principal means of cure. The bladder must be emptied twice daily, until the uterus by its growth rises above the pelvis. The catheter should be small, flat, and curved considerably more than under ordinary circumstances; and sometimes a male flexible one will be required. The distorted course of the urethra must be borne in mind, which will point out the necessity of depressing the handle considerably during the introduction of the instrument; and not unfrequently it will be necessary to introduce two fingers into the vagina, so as to depress the cervix uteri. The bowels should be kept open by glysters; and absolute rest, in a recumbent posture, should be enjoined. Under this management, the uterus usually recovers itself in a few days, without our being able to restore the organ to its original situation by any other manual interference. But it may be impracticable to withdraw the urine, and it then becomes necessary to replace the uterus; or the bladder may slough or burst, or adhesive inflammation may ensue. The woman being on her hands and knees, the fore and middle finger of the *Accoucheur's* left hand, well

anointed, are to be gently passed up the rectum to the fundus of the uterus, which they are to elevate, whilst the cervix uteri is at the same time to be carefully depressed by two fingers of the right hand in the vagina. Should the fingers employed to elevate the fundus uteri not be long enough to effect this object, a piece of whalebone may be substituted, having a small piece of sponge attached to one extremity, as a pad.

"In some few melancholy instances, the uterus has been firmly wedged into the pelvis by adhesive inflammation. Such cases have terminated fatally; nor is it probable that the result would have been more favourable, had a trocar been passed through the uterus to discharge the liquor amni, or had the symphysis pubis been divided, in compliance with the recommendation of some respectable men. In one case, the bladder was tapped above the pubes, the uterus was subsequently reduced, and the woman did well.

"In several patients the uterus has remained partially retroverted, to the full period of utero-gestation, of course without an entire retention of urine and fæces. During parturition, after severe and protracted sufferings, the os uteri has descended, and the child has been expelled, in a few of these cases; in the other, the patients died undelivered."

The following are the "general observations," which Dr. Conquest introduces, as applicable to the introduction of instruments in the practice of midwifery, under any circumstances.

"1. The bladder and rectum should, if possible, always be emptied; the former by the introduction of the catheter, and the latter by the exhibition of an enema.

"2. Instruments should never be introduced whilst the os uteri remains firm and undilated, or irreparable mischief may ensue. The perineum should also be in a yielding condition.

"3. The assistance given by instruments should always be afforded during pain, that the uterus may be merely assisted in its exertions, and that it may be gradually emptied. Of course, if uterine contractions have ceased, all that can be done in this respect is to imitate nature, by employing power with intervals of rest.

"Except under very peculiar circumstances, such as may occur in cases of hemorrhage, syncope, &c. the power employed should be rather steady than quick; and if it secure perceptible advance of the child, however little the progress may be, it should be considered as satisfactory.

"4. Instruments should always be introduced slowly and cautiously.

"5. The patient may generally be in the usual position on her left side.

"6. The instruments ought to be brought as nearly as possible to the temperature of the body, and well anointed, before being used.

"7. Unless very urgent circumstances prohibit, the employment of instruments should not be concealed from the patient and her friends.

" 8. The extracting power should be employed in the direction of the axis of the pelvis; so that if the obstacle be at the brim, the handle of the instrument must be directed backwards against the coccyx; but as the child advances, that part of the instrument grasped by the operator's hand should be gradually directed towards the pubes.

" 9. Should the instrument, when used, give much pain, we may rest assured that some part of the mother is included in the grasp, and should immediately change the hold.

" 10. The time to be occupied in effecting delivery will depend on the degree of difficulty to be overcome."

He then proceeds to speak of the several kinds of forceps that have been and are in use; giving, of course, the preference to his own suggested improvement on Dr. Davis's craniotomy forceps, a Plate and description of which have been given in one of the preceding Numbers of the *REPOSITORY*, and a delineation of which is likewise appended to the present manual.

Why is it that the Cæsarean operation, the very mention of which in this country is considered as nearly tantamount to a signature of death-warrant, should be spoken of on the Continent as practised with a fair prospect of successful result? Dr. Conquest conceives the reason of this difference to be, that the operation is scarcely ever determined on in England until after long-continued fruitless efforts have been made by the mother to expel the child; so that her constitutional powers, and the parts to be operated on, have been in the most unfavourable condition possible; whilst on the Continent an ecclesiastical law morally compels the patient to submit to, and the Accoucheur to perform the operation, as soon as careful examination demonstrates the necessity, whilst the constitution is tranquil and its powers unimpaired.

On the marks which denote foetal death, Dr. Conquest introduces the following observations.

" They are either such as present themselves *before*, or *during* parturition.

" First. Those preceding labour are of a very dubious character, and must be viewed collectively, to supply any thing like conviction. They are,

" Flaccidity of the mammæ.

" The sensation of a cold weight about the uterine region.

" Rigors, without local disease.

" Want of motion in the child; with many other supposed proofs, not worth enumerating.

" Secondly. Such symptoms as occur during labour, and these are either *demonstrative* or *presumptive*.

" The *demonstrative* evidences are,

" Great mobility of the bones of the cranium.

“ Emphysema of the scalp.

“ No pulsation in the funis ; sanious and fœtid discharge from the uterus, with portions of cuticle.

“ The *presumptive* evidences are ;

“ Cessation of the movements of the child.

“ Protraction of labour for several days.

“ Escape of the meconium—the head presenting.

“ Œdema of the scalp.

“ No one of these alleged proofs of the death of the child should be individually admitted ; and without the concurrence of several of them, an opinion cannot be satisfactorily formed.”

In respect to extra uterine impregnations, our author very justly, according to our conception, remarks, that in those cases which are termed abdominal or ventral, the fœtus did not probably exist in the abdomen from the commencement of utero-gestation ; but that its situation is the consequence of the ova having escaped into the cavity, either by ulceration or laceration of the uterus.

Here we must terminate our account of, and extracts from, this interesting little volume of Dr. C. ; which, however, when a second edition shall be called for, we recommend the author carefully to supervise, in order to correct some little inaccuracies of grammatical expression, and even occasionally of orthography, the result of haste and inattention : these, although by no means very numerous, are still sufficiently so to interfere, in some measure, with the value of the work, considered as a literary performance.

## II.

*Practical Observations on the Colchicum Autumnale, as a general Remedy of great Power in the Treatment of Inflammatory Diseases, both Acute and Chronic ; and therefore as a Substitute for Bleeding, in Disorders which are connected with Increased Action of the Heart and Arteries.*  
By CHARLES THOMAS HADEN, Esq. Surgeon to the Chelsea and Brompton Dispensary ; late Surgeon to the Derbyshire General Hospital ; Member of the Medico-Chirurgical and other Societies, &c.

It would be an amusing and even instructive task to trace the rise and fall of many of those remedies which were once so celebrated in medicine ; though, we believe, it would be ascertained that most of them enjoyed an unmerited reputation ; yet it would, perhaps, equally appear, that some of them, like certain ancient worthies, have sunk into undeserved neglect. The old therapeutical maxim, *post hoc, ergo propter hoc*, is one which has deceived Physicians in past times, and

still operates powerfully in the present; for, what man is to be found who does not, to some favourite mean, ascribe effects which depended on the salutary efforts of nature? and who does not also push the general agency of that mean beyond the boundaries of legitimate influence? On the contrary, however, when a Practitioner, by long and careful observation, acquires an accurate tact in the application of a medicine; when he can vary its dose, and its degree of influence, according to the different circumstances of a case, those who attempt to follow him are apt to be disappointed; simply because, not being possessed precisely of the same information, they cannot with the same nicety discover the indications, and the effects, which guided the original recommender of the drug to such successful results; and its powers, therefore, may be falsely appreciated by them, and falsely decried. We have deemed it right to premise these remarks, in order to guard our junior readers in particular, against an undue partiality on the one hand, and an undue prejudice on the other, with respect to recommended medicines in general. As for the little work immediately before us, it abounds with such proofs of candour and good sense, that we have great pleasure in presenting an abstract of its contents: for though fully aware that there are abundance of old remedies, which have not yet been applied with any thing like precision, nevertheless this fact forms no sound objection to the introduction of a new remedy, thus fairly and distinctly brought before the medical public.

The colchicum has been recently and successfully used in this country, in gout and rheumatism; but Mr. Haden extends its application to almost all diseases attended by excitement; and we think that the numerous facts which he has adduced, bear him out in the conclusion, that it has a general power in controlling excessive action of the heart and arteries. This generalization of the subject gives the colchicum a high additional claim to notice; and we shall, therefore, make such extracts from the able author's pamphlet, as will enable our readers rightly to enter into his comprehensive views.

He observes:

"In offering these observations on the use of colchicum I have two duties to perform; the one, to give the result of my own experience; the other, to do justice to the claims of another. My father, who has practised for nearly forty years in Derby, began the use of colchicum in gout some years ago; at the time Mr. Want published his first paper on the subject. At this period he gave from a drachm to a drachm and a half of Mr. Want's tincture, without the purging mixture, in cases of gout; but finding that forty-eight hours frequently elapsed before the purgative operation of the medicine was produced,

and as that operation also was often violent, especially when a repetition of the first dose was required, he began to give the common purging mixture with the colchicum. Under this mode of exhibition he found the beneficial effects of the colchicum to follow more quickly, and to be equally decided as when the purging was produced by colchicum alone. He then extended the use of the remedy from gout to rheumatism, and from the latter to the treatment of cases of inflammation in general; but finding that violent effects sometimes arose from the use of the tincture, he tried the remedy in the form of powder; and as it appeared that it was more manageable in this form, and was, at the same time, quite as certain in its operation, he continued to use it almost exclusively, and has now, for more than six years, employed a combination of powdered colchicum and opening medicine as his common prescription in all diseases of excitement.

"From this account, it is apparent, that his experience in the use of colchicum has been very extensive; and I shall give the general results of that experience nearly in his own words, as his expressions are frequently very strong, and, if verified by other Practitioners, are very important.

"In the pure inflammations he says, 'If it be given every four hours, until it produces an abundant purgative effect, the pulse will become nearly natural, from being either quick and hard, or slow and full. This frequently happens even before purging has taken place; and the effect is so certain, that I never bleed, unless inflammation exists to an alarming degree in a vital part, and then never more than once.'

"'Fevers and inflammation so removed, never require the use of tonic medicines during convalescence; the patients indeed generally appear to be as well as though they had not been at all the subject of disease; and although it sometimes happens that a recurrence of symptoms takes place, it is in a much milder degree, and the new disorder is always immediately removed in a few hours, by a very little of the same treatment.'

"The above quotation comprehends nearly the whole of his written sentiments respecting the use of colchicum in acute diseases; but I have frequently heard him express, in conversation, the results of his practice in individual disorders; and refer to cases of violent acute disease of almost every kind, in which the symptoms gave way in the most rapid manner; cases where, from his having been called in early, a disease which would not, under the usual treatment by bleeding and purging, have been cured in less than a week or a fortnight, and would have left the patient in a state of weakness, has been removed by the use of colchicum in two days, and the patient left really in a state of health.

"With regard to chronic and less acute complaints, my father says, in his written communication—'In organic derangements of structure, when occasionally attended by inflammatory symptoms, the above treatment answers perfectly in curing the super-induced inflammation; so much so, that at times the general actions are so much subdued as to give no notice, by symptoms, of the existence of the primary disease: thus, in one case, gangrene was going on in the

foot, whilst the inflammation, which produced it, was subsiding under the use of colchicum. In chronic rheumatism, six grains, with one drachm of sulphat of pot-ash, taken every morning, will, I believe, always answer. In some cases, however, many weeks elapse, before the patient is well; although, when patients have persevered, I have not known it to fail. In habitual discharges of blood from plethora, when under the ordinary treatment, frequent bleedings were required, the daily use of colchicum (as above) has answered very well indeed, as far as I have been able to try it. It has great influence in consumptions, but it does not remove the complaint. After accidents, its effects are sometimes extraordinary, if immediately given; it seems to have the power of averting the severe consequences which usually follow such cases.’ ”

Mr. Haden informs us, that since he has long been accustomed to consider the generality of complaints as the offspring of an undue excitement of the constitution, from irritations applied either from without, through the medium of the atmosphere, or other accidental agents, or from within by local derangements of action or of structure, his employment of the colchicum has consequently been very extensive; for, he continues, this medicine has appeared to control arterial action more certainly than every other individual agent, except bleeding, and more safely than even the lancet; and it therefore generally forms a part of his early treatment in all diseases, accompanied or caused by increased action of the heart and arteries. Mr. Haden, however, feels it necessary to add, that with all his confidence in its powers, he has not hitherto, except in a single instance, trusted to it alone in very violent states of disease; because, consistently with his present experience, it is probable, that even under the most skilful management and boldest mode of exhibition, it would not supersede the lancet in all such cases, and also because he conceives that it is only the extensive knowledge of any medicine, which will authorize a Practitioner to employ it, in preference to old established modes of practice in cases of great or immediate danger.

Mr. Charles Haden has adduced a great number of cases in support of his particular and general views in regard to the influence of colchicum, some of which are exceedingly interesting, but others are too concisely reported for the purpose of complete illustration: and as the intelligent author deservedly enjoys the advantages of an extensive practice, we would recommend him still to accumulate cases, and so to arrange them, that the palpable changes of the symptoms might be more intimately associated with the operations of his favourite remedy. Upon the whole, Mr. Charles Haden acknowledges, that colchicum has been less

successful in his hands than in those of his father; and he ascribes this, partly to his father having used it longer, and having understood the mode of administration better, inasmuch as the former has given more opening medicine with it, and therefore trusted less to its specific operation, than his father has done; though it will be observed, from the following extract, that the latter enjoins purgatives to a certain extent:—

“In acute cases, he gives from two to eight grains of the powder, with a scruple or more of sulphat of potash, in rose mixture, every four or six hours, increasing the dose after a few hours, until either purging is produced on the second day or third day, or the common black dose, or calomel, is given in addition. The medicine is now laid aside, if its effect on the disease be decided; or it is given in diminished doses, or one dose of six or more grains is given occasionally, with calomel at night.

“In chronic cases, one considerable dose of five grains and upwards is given every morning early, with a drachm of sulphat of potash, in a tumbler nearly full of warm water. In this form, it is continued for weeks together, other opening medicines, such as jalap, being added to it, as occasion may require.”

To this account Mr. Charles Haden subjoins from his own observation—

“That the medicine will usually produce some relief on the second day; but not its decidedly beneficial operation till the third day, when purging generally takes place.

“In some cases, indeed, no relief occurs, even on the third day, when full doses of opening medicine are required, or it is necessary to increase the dose of colchicum: but, in others, the medicine purges on the second day, without producing a corresponding relief of the symptoms; or, the case is such, as to make much purging unadvisable: in these cases, a smaller quantity of the sal polychrest is given with the colchicum, or the latter alone, without admixture.

“In whichever of these ways the full operation of the medicine may be produced in the treatment of acute diseases, it is to be then discontinued; entirely, when the relief is perfect, or the actions of the constitution are subdued to the standard of health; or the medicine is given in less powerful doses, where any remains of excitement exist.

“In chronic complaints, a small dose of calomel, or blue pill, and of aloes, with two or three grains of ipecacuanha, is usually given at bed-time, every night, and one or two of the drachm powders\* in the day.

“In children and weakly subjects, the dose of the powder, in all cases, varies from sixteen grains to two scruples; so as to give from

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\* These drachm powders are composed of one part of powdered colchicum, three parts of carbonate of potash, and four of sulphate of potash.

two to five or six grains of the colchicum, the full drachm containing about seven grains.

"It is necessary, however, to be cautious in taking these doses of the powder, as a general rule. As little even as three grains every six hours, will be sufficient to overcome common feverish attacks, especially in persons of but moderate powers."

It will be perceived that both Mr. Charles Haden and his father have administered the powder of colchicum in conjunction with other means; but as these means, when exhibited alone, are known not to have the power of speedily removing excitement, the complication of prescription cannot form a fair ground of objection against the efficacy of colchicum. Still it would have been more satisfactory if this remedy had not been complicated with the "ministry of other means;" for then even scepticism itself would have been unable to doubt its power of diminishing increased action. Mr. Charles Haden, as well as his father, prefers the powder to every other form of prescription: and this is one reason certainly why purgatives should be combined with it; for an active medicine like this, given in the form of powder, might be so long retained in the intestines as to permit of a large absorption about the same time, which might be exceedingly detrimental; whereas all risk of this kind is avoided by conjoining it with some medicine, which determines its action to the intestines, and of course tends to prevent such an accumulated effect as that adverted to above. Mr. Charles Haden seems to entertain a prejudice against the tincture of colchicum from having seen pernicious effects follow its use: but a sensible correspondent gives a strong testimony in its favour; and we ourselves have given it extensively in rheumatism, generally with the most decided benefit, and have not met with a single instance in which it appeared to do the least harm. We fully agree with the author in believing that colchicum ought either to be wholly withdrawn, or given in much less doses, as soon as ever it begins to lessen the force or velocity of the pulse; and we are pretty sure, that it is owing to an attention to this circumstance, which has enabled us to give it so long without any of those prejudicial consequences which others have witnessed. The author has given some most judicious cautions against the abuse of colchicum, which not only show the accuracy of his observation, but the liberality of his mind: and we cannot conclude the present review without strongly recommending his little work to professional notice; for, independently of many sound pathological and practical remarks, it contains a generalization of the effects

of a remedy, which, under right management, promises to be of great public utility.

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As an appendage to the present Article, we subjoin the following Cases, just received :—

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*Cases of Acute Diseases treated by the Colchicum Autumnale.*  
By Mr. DAVID RICE, of Stratford-upon-Avon.

MR. HADEN, of Sloane Street, having lately published a small work, describing his own and his father's experience of the utility of the colchicum autumnale, in the cure of acute inflammatory diseases, I think it may be interesting to lay the following cases before the public. They occurred during the long period of my residence with Mr. Haden, of Derby, and are only selected because notes of them were taken at the time; and one of them, at least, is a very favourable specimen of the extraordinary way in which the colchicum sometimes destroys violent diseases, as it were at once. They are published, too, because in Mr. Haden's book the results only of his father's experience are given; and because whilst I give these as cases which occurred to myself, it allows me to remark, that very many others of a similar nature passed under my observation; the details of which, however, are not sufficiently remembered to allow of their being published.

*Case of Acute Rheumatism, cured by one Dose of the Tincture of Colchicum.*

Luke Flixon, a strong, athletic, middle-aged man, was attacked with rigors, followed by pain about both hips, and extending down the right thigh; the pain gradually increased till the third day, when it became so violent that he was unable to proceed with his usual employment as a blacksmith. When I saw him he was in excruciating pain; he was supporting himself by leaning on the arms of a chair, being unable to move in any direction. His pulse was about 90; his tongue was covered with a white fur; the heat of his skin was a little increased, and his bowels were costive. A drachm and a half of the tincture of colchicum was given in a dose of salts and senna. I saw him again in three hours: the pain had so much diminished as to have enabled him to sit down in the chair, but he was unable to get up again. Three hours after this, the pain was considerably less; and at eight o'clock in the evening, (being about eight

hours and a half after the medicine was taken,) it was so much alleviated, that he determined to walk home, a distance of two miles. I saw no more of him till the Monday, (this being on the Saturday), when I found that he got home tolerably well; that he had a return of pain in the evening, but that it was entirely gone in the morning. The medicine produced very profuse perspiration in the night, but did not affect his bowels in the slightest degree. Some purgative medicine was given, and the man had no return of the pain. This man had been liable to similar attacks before, for which he had usually been bled; and had generally been confined to his house for a considerable time. There were three things which struck me in this case. 1st. The relief of pain, before the medicine had produced any effect upon the skin; 2d. The permanent relief after that action had been produced; and, 3d. The short time in which the man was cured; and, consequently, the great saving of time and of constitution, which was, of course, of much importance to the patient. I was not at that time aware, that the colchicum affected the pulse in any peculiar manner; and, therefore, did not notice any effect of that kind in this instance.

*Case of Puerperal Fever, treated by Colchicum.*

Sarah Turner, a delicate-looking woman, about thirty-five years of age, who lay-in on the 17th of September, 1819, was this morning, (the 20th), seized with pain in the head and side, and about the uterus, with bearing down: the two last symptoms are considerably increased when she has a motion. She has had very frequent, watery, and fetid stools. The lochia, till to-day, were very profuse, but have entirely disappeared since this morning; her milk has also ceased to flow this afternoon. Pressure with the hand on the abdomen produced pain; and she then said, that she had felt considerable pain in the belly, at times, during the whole of the day. The abdomen is also swelled to a considerable size; she has had rigors; her pulse is 96, and with difficulty compressible; her tongue is loaded with a brown fur. Capt. Hyd. Submur. gr. viij. statim, et postea pulv. cum Pulv. Colch. gr. v. et Pulv. Jalap. gr. iij; et repetatur pulv. secundis horis. This was at eight o'clock in the evening. At ten o'clock, pain, and size of the abdomen has very much increased; the belly is swelled to an enormous size.—V.S. ad ʒxx. et contr. pulveres.

Sept. 21st. 9 o'clock A. M.—Has had several very copious stools, in which there were many hard black scybalæ; the pain in the abdomen and head is much relieved; the pulse is as frequent as before, but more easily compressible; the

swelling of the abdomen is much diminished. Contr. pulveres.

8 P. M.—Is very much better in every respect: she has, comparatively, very little pain; the abdomen is not more than half the size it was last night. The medicine has purged her very freely. Contr. pulveres.

22d. 9 A. M.—Is quite free from pain, and says she feels pretty well. The abdomen is nearly of its natural size; pressure applied does not produce pain, but a sensation, which she describes by the word soreness. The lochia and milk have returned; pulse about 76; stools said to be frequent and natural. Contr. pulveres 4tis vel 6tis horis.

4. P. M.—All the symptoms have returned, and she has now very considerable pain; the pulse has risen to 104, is hard and full, and is compressed with great difficulty; the tongue, which before had become clean, is now foul. On inquiry, I found that her friends were alarmed at the very frequent stools which she had had, and had given her no medicine since last night; and, in consequence, her bowels have become confined, though they were described as being open in the morning. She has, in truth, had no stool since five o'clock this morning, and the nurse has given her some animal broth. V.S. ad  $\frac{3}{4}$  viij. Capt. stat. Bol. Calomel. cum gr. x. et Pulv. ex Colch. et Jalap., ut supra, secundis horis. The blood drawn this time, as well as before, was buffy and much cupped.

23d.—Symptoms very much relieved; the medicine has purged her very violently; her pulse is about 80. Contr. pulveres 4tis horis.

24th.—Going on well. Contr.

25th.—Continues to go on well. Contr. pulv. 6tis horis.

27th.—The pain and swelling of the belly have returned, but are not nearly so violent as before, and are without the other symptoms. Capt. Bol. Cal. et Jal. statim et repet. pulv. ex Colch. et Jalap. 4tis horis.

28th.—Better; the medicine has operated very freely on her bowels. Contr. pulv. ter die.

30th.—Is convalescent. Capt. Pulv. ut supra om. mane. This day she began to take broth and other forms of animal food; and at the end of the lying-in month she was full as well as she had ever been before at such times.

#### *Case of Erysipelatous Inflammation, treated by Colchicum.*

March 14, 1820.—Catherine Orme, a married woman, of full habit, and about thirty years of age, has considerable erysipelatous swelling, extending completely over the right side of the face and forehead: the swelling is so great, that

she is unable to open the right eye at all, and it gives her great pain to open the left; there is great tension of the parts, with very violent pain; the swelling exhibits a red and highly polished surface. Her pulse is 110, full and hard; her bowels are costive; and she has frequent rigors. She lies in a comatose state, which has lasted since yesterday evening; when roused, she answers questions; but her friends say she has been frequently delirious. Capt. statim calom. gr. v. et pulv. colch. gr. viij. formâ boli, et postea pilul. cum pulv. colch. gr. v. et pulv. scam. gr. iij. secundis horis, donec alvus copiosè respond. App. hirud. vj. faciei, et postea catap. commune.

*Vespere*.—The medicine has produced no effect; the symptoms are as in the morning, the pain being increased. V.S. ad 3xviij. et contr. pilulæ.

15th.—Much the same; the delirium and coma are less, but the pain is not at all relieved; the pulse is 96, the medicine is beginning to operate both on the bowels and skin. Cont. pilulæ.

P.M.—The pills have operated very violently, and are increasing the quantity of urine: the pain and tension of the face are much less. The patient is very irritable and restless. Omitt. pilulæ cum colch. &c. et capt. pilul. cum camph. grs. ii. 4tis horis.

16th.—The delirium and coma have returned. She has had several motions in the night, has passed a great quantity of urine, and has perspired very much: her pulse is 75, and soft. Cont. pilul. cum camph. et app. emplast. lyttæ nuchæ.

*Vespere*.—Her bowels still continue very open; there is less tension, and also less coma; but the pain still continues. Cont. pilul. cum camphorâ.

17th.—The symptoms have returned; and the pain and tension have increased to a great degree; the swelling is much more extensive; the bowels are become confined; and she has passed little or no urine during the last twelve hours; she is perfectly sensible; but says she feels very drowsy and stupid; pulse 96. App. hirud. viij. tempori, et capt. pulv. cum pulv. colch. gr. v. et sulph. pot. 3ss. tertiis horis.

*Vespere*.—Is much better in all respects; the leeches bled freely, and the powders have purged her several times; her pulse is 86. Cont. pulv.

18th.—Is surprisingly better, being free from coma, whilst the pain, tension, and swelling, are very considerably abated. The colchicum has purged her violently, and increased the quantity of urine, but has not affected the skin. Pulse 75. Cont. pulv.

*Vespere*.—Continues better; bowels still freely open.

19th.—Is free from pain, but there is still considerable swelling; the bowels are open, and the urine is free in quantity. Cont. pulv. 6tis horis.

20th.—Has had a slight return of pain, though the swelling is much abated. Cont. pulveres.

After this time the swelling gradually disappeared; and she continued to improve. On the 28th she was allowed to mend her diet, which had before been restricted to gruel; and she gradually recovered her strength.

It may be said that in the above case the bleeding had a great share in producing the beneficial effects; but in the following case, although bleeding was not employed, and the comatose symptoms showed the severity of the disease, the patient was nevertheless rapidly and permanently cured under the use of the colchicum.

*Case of Erysipelas of the Face, treated by Colchicum.*

A servant woman, about twenty-five years of age, of full habit, was a few days since attacked with pain in the right cheek, for which she took a little opening medicine, and was relieved. Yesterday the pain returned with increased violence; and this morning there is great tumefaction, with a shining inflamed surface, extending over one side of the face, and attended by very violent pain; her pulse is about 90. She has taken some opening medicine this morning, which has not produced any effect; she has been delirious, but is now perfectly sensible; she says, however, that she is very stupid and sleepy. Capt. bol. cum calom. et colch. āā. gr. v. et pulv. cum pulv. colch. gr. iij. et sulph. pot. ʒj. 4tis horis. App. lot. frigid. faciei. (This was on Jan. 8, 1819.)

9th.—The medicine has begun to purge her, and she has perspired much; she was delirious again in the night, and is very comatose this morning. The pain and swelling are as before; pulse about the the same. Cont.

*Vespere.*—The medicine has operated very violently on the bowels and skin; she has much less pain. The swelling is somewhat less; her pulse is 76. Cont.

10th.—Her bowels are still freely purged; and she has perspired much more. The pain and swelling have considerably diminished.

11th.—The medicine has affected her bowels and skin still more; the pain is quite gone, and the swelling has nearly disappeared. She appears to be very low. Ordered to begin taking the bark to-morrow, and, at the same time, to keep her bowels freely open by taking the powders, as above, occasionally. After this, she had no return of symptoms, and was soon quite well.

The tincture used in the first case was made by myself, and from roots gathered in the meadows near Derby, about the middle of September: they were sliced, and dried, by placing them upon a board, and exposing them to the sun, turning them every day. lbss. of these roots coarsely powdered was added to a pint of equal parts of spirit of wine and water, and allowed to stand together fourteen days. The powder was, in the first case, of my own collecting; but in the two last it was procured from Messrs. Manley and Stone, Druggists, of Paternoster Row. It is evident that in the first case only will sceptical persons be inclined to allow, that the colchicum was the efficient agent in the cure; but I think it only necessary to say further, respecting the other cases, that whilst a sense of propriety and of duty led me to join the other parts of the treatment with the colchicum, so that in such violent diseases the patients should have every chance of recovery afforded them, still the very material agency of the colchicum was too prominent to be overlooked; at least, it appeared to me at the time, that neither the other remedies without that, nor the same severity of purging by other means, would have been equally beneficial.

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### III.

*A Synopsis of the various Kinds of Difficult Parturition; with Practical Remarks on the Management of Labours.* By SAMUEL MERRIMAN, M.D., F.L.S., &c. &c.

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DR. MERRIMAN is a *classic* in the obstetrical department of medicine, and needs not our commendation to confirm his already established reputation; nor should we have thought it proper even to notice this edition of his treatise, but for the purpose of stating, that it contains a selection of cases; some of which, especially, the young Practitioner in midwifery will find of much value, as practical illustrations of the doctrines contained in the book, of which the following may be taken as an instructive example:—

“ Mrs. L’Angelle, a well-made, healthy young woman, had a very quick labour with her first child. Being pregnant a second time, and taken with labour pains, she sent for her accoucheur, who found her with the *os uteri* open, to nearly the size of half-a-crown; the pains recurred every eight or ten minutes, and every thing promised a favourable and quick labour.

“ Unfortunately he was tempted, by the hope of accelerating the delivery, to rupture the membranes; immediately the pains grew inefficacious, and every favourable symptom vanished. Had the labour not been interfered with, it is probable that it would have been

as expeditious as the former; but on the present occasion it was lengthened to thirty-four hours of duration, and the pains were rendered more severe and distressing than was necessary. Luckily, the child was born alive, and the patient recovered; but both were very unwarrantably placed in great danger.

"Mrs. L'Angelle became pregnant again in about a year, and was under the care of the same accoucheur; who, being then wiser, left the whole to nature, which effected the delivery in less than eight hours from the first accession of the symptoms."

One feature of novelty in the present edition is constituted by a statement of some instances in which the ergot or spurred rye was used, for the purpose of ascertaining its alleged powers in protracted labours from defective uterine action.

On this article, Dr. Bibby, of New York, expresses himself in the following terms:—

"The ergot or spurred rye has been much used in different parts of America and France, in cases of protracted labour from a want of uterine action. It is given in infusion. A drachm infused in three or four ounces of boiling water, for ten or fifteen minutes, is the usual dose. Should pain not come on in half an hour, it may be repeated.

"The period of its exhibition is when the head of the fœtus has passed the brim of the pelvis, and would protrude the external part during a pain. The infusion is given at this period with the happiest effects; *at any previous period, by increasing uterine action, the life of the child will be almost certainly sacrificed.*

"A most extraordinary circumstance is noted, that where the fœtus has been some time dead, and putrefaction to any extent taken place, the remedy is altogether inert. In no case where it has been used, has hæmorrhage occurred; and in natural labour, where hæmorrhage does occur, it has been given with the greatest advantage."

These reports respecting the extraordinary and somewhat peculiar efficacy of the substance in question, induced Dr. Merriman to make trial of it; and he presents six cases in which it was administered with varied effect; four of them in his own practice, and two communicated by friends of the highest respectability. In addition to which, Dr. M. tells us that his colleague, Dr. Ley, lately gave the ergot infusion to a patient; but it was immediately rejected by vomiting, and produced no other effect. Our author remarks further, that the numerous instances in which the child has been still-born after the exhibition of the ergot cannot fail to lessen our favourable opinion of its virtues.

We shall only add, that Dr. Merriman incidentally acquaints us in the present volume, that he has exhibited the oil of turpentine in puerperal fever, in two cases, with very

indistinct, if any, indications of its beneficial tendency; and in both cases the noisome taste was so disgusting, that the patients declared they would not submit to a repetition of the remedy.

#### IV.

*Observations on the prevailing Practice of Supplying Medical Assistance to the Poor, commonly called the Farming of Parishes; with Suggestions for the Establishment of Parochial Medicine Chests, or Infirmarys, in Agricultural Districts.* By H. L. SMITH.

THAN at the commencement of a new year, we do not know that we can find a more appropriate time for presenting to our readers the substance of this tract, which we have been requested to receive; and which we can find no other mode of noticing, than by detailing the whole of the proposed plan of Mr. Smith, and leaving them to judge for themselves of its feasibility. Certain it is, that the present constitution of parochial attendance is on many accounts highly objectionable. We should be exceedingly happy to receive communications on the subject from such of our correspondents as may have turned their attention to these important particulars.

*Proposed Plan for a General Dispensary, in order to supersede the present System of Parochial Attendance.*

" I. That a general Infirmary and Dispensary be established at open for all the labouring poor, who are resident within six or seven miles of that place.

" II. That it be supported by voluntary contributions, and by individual and parochial subscriptions; the latter after the rate of £3 per annum, for every hundred of inhabitants\* in all villages situated within three miles, and £4 per annum for every hundred in all villages beyond that distance.

" III. That mechanics, servants, and labourers, who are not strictly denominated poor, and who may be desirous of availing themselves of the advantages of this institution, be allowed to do so, on contributing annually 5s. each.

" IV. That every female subscriber of 5s. shall be entitled to medical attendance.

\* The payment by the gross amount of population has the advantage of being generally fair, as the proportion of rich and poor in agricultural districts is for this purpose sufficiently uniform; calculating by the number of paupers only would be liable to much error, and in making and registering the lists, would give an infinity of unnecessary trouble to the overseers and secretary.

" V. The subscriptions for children under the age of fifteen to be 2s. 6d. each per annum.

" VI. That subscribers of one guinea per annum may recommend two patients (cases of midwifery excepted).

" VII. That annual subscribers of one guinea shall annually elect a committee of twenty from among themselves, who, with the overseers of the subscribing parishes forming part of the committee, shall have the direction of the establishment.

" VIII. That Messrs. A. B. C. be appointed Surgeons to the institution, and any or every regular medical Practitioner, residing in the district, be admitted into the establishment at the discretion of the committee.

" IX. That Mr. A. be appointed to attend every Monday and Thursday from ten to eleven.

" That Mr. B. on Tuesday and Friday.

" That Mr. C. on Wednesday and Saturday.

" X. † That 2s. 6d. be allowed for every journey within three miles of the infirmary, and for every additional visit in the same place 1s., and for every mile beyond that distance 9d. or      That after the expenses of the medicines, and all other demands on the funds, are paid, £50 (for the current expenses of the institution) be then kept in the treasurer's hands; the remainder to be divided between the Surgeons, in proportion to the number of miles travelled and visits made; and each Surgeon shall deliver in a monthly account of his journeys and visits to the secretary, from which his allowance shall be calculated.

" XI. That the poor shall have the privilege of being attended at home by such one of the Surgeons as they may desire, upon sending an order signed by the minister of the parish, or the overseers.

" XII. That the poor of subscribing parishes, who may be able to attend at the infirmary, upon observing the appointed hours, and producing evidence of their belonging to such a parish, require no other recommendation.

" XIII. That all medicine be purchased by the Surgeons, under the direction of the committee. The Surgeons to find their own instruments, except trusses.

" XIV. That lodgings, and accommodations, for patients requiring frequent attendance, be procured at the expense of the funds, provided they have no accommodation for sick in the house.

" XV. Paupers not being maintained out of the funds of the institution, must, therefore, if in lodgings, be supplied immediately from their parish; and if in the infirmary, will be provided for by the house-keeper for 5s. 6d. each per week, and if under ten years of age, 3s. 6d.—Her accounts are separate from the funds, but regularly investigated by the committee.

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† The principle once adopted of remunerating professional men in the country by paying their travelling expenses from one common fund, would not when brought into practice be so difficult as might be anticipated.

" XVI. That under unavoidable circumstances that may require the absence of the Surgeon officiating, he shall provide a substitute.

" XVII. That no important operation in the infirmary be performed without the attendance of two Surgeons. The operating Surgeon only shall be allowed to introduce visitors to an operation.

" XVIII. That the committee (five constituting a majority) meet on the first Monday in every month.

" XIX. That a treasurer and secretary be appointed, the latter \* with a salary.

" XX. That in extreme cases, the Surgeon, if he thinks it expedient, do call in the aid of such neighbouring Physician as he may think proper, whose fees shall be paid out of the funds.

" XXI. That notice of the Physician's attendance be communicated to the Surgeons of the infirmary by the Surgeon who solicits his attendance.

" XXII. That when the usual Midwife is obliged to call in the assistance of an infirmary Surgeon to the female poor in labour, such Surgeon shall be entitled to one guinea for his attendance from the funds.

" XXIII. That no female poor be entitled to medical attendance when in labour, on account of the establishment, but as above.

" XXIV. That the names of the Surgeons, with their days and hours of attendance, be fixed in the common room.

" XXV. That patients desiring a consultation of the Surgeons, do, with the consent of two overseers or governor, send the secretary an intimation of their wish to that effect.

" XXVI. That the poor find their own bottles, phials, and bandages, and come supplied with them after their first visit.

" XXVII. That any complaint of inattention, or neglect of the nurse, secretary, or Surgeon, be directly stated to a subscriber, who, after investigating its truth, will report it to the committee.

" XXVIII. That wine, sago, porter, &c. be ordered for the patients by the Surgeon only, and kept by the nurse, who shall deliver in a monthly account of what has been thus expended.

" XXIX. That every patient admitted into the house do conform to the rules thereof, or be discharged, and a report of the cause of his dismissal be made to the party who recommended him.

*" Other Private Rules to be made for the Use of the Infirmary—as*

*" Rules of recommendation and directions for subscribers—For patients in the house—For out-patients—For the election of officers—Duties of the secretary, &c. &c.*

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\* This being an active rather than an honorary office, requires that some person of ordinary abilities, and in that station of life whose local knowledge and acquaintance with the general state of the applicants would enable him to save much trouble to the Surgeons, should be chosen—instead of gentlemen, as usual on these occasions—more particularly as a knowledge of accounts and an appropriation of much time will be necessary.

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*PART III.*

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SELECTIONS.

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*On some Combinations of Platinum.* By EDMUND DAVY, Esq., Professor of Chemistry, and Secretary to the Cork Institution. (Communicated by F. BABINGTON, M.D., F.R.S.)

(From the *Philosophical Magazine*.)

IN my communication to Sir H. Davy, Bart., "On a new fulminating platinum," which has been honoured with a place in the Transactions of the Royal Society\*, I stated that I had obtained some other new compounds of this metal: these have since occupied no inconsiderable portion of my leisure hours, and I now beg leave to lay the results of my inquiry before the Royal Society. A constant attention to other necessary duties has not allowed me sufficient time to render this investigation so complete as I could have wished; but as I presume the facts are novel, I shall venture to bring them forward in a form, which, though imperfect, may not be wholly destitute of interest.

1. *On a peculiar Compound of Platinum, obtained from Sulphate of Platinum by the Agency of Alcohol.*

Sulphate of platinum, unlike the other metallic sulphates in general, is, to a considerable extent, soluble in alcohol and in ether. As these fluids are capable, in certain circumstances, of partially or wholly reviving some metallic oxides from their solutions in acids, I wished to try their effects on the sulphate of platinum. Accordingly, I put into a small phial about equal volumes of a strong aqueous solution of the sulphate and alcohol; and, after agitating the mixed fluids, the phial was put aside. Some weeks afterwards I found the dark colour of the sulphate had entirely disappeared, a dense black substance had subsided, and the supernatant fluid remained colourless and transparent. On opening the phial, an odour similar to that of ether was perceived, the fluid had a strong acid taste, and afforded a copious precipitate with nitrate of barytes. After the black substance had been well washed and dried, a few preliminary experiments served to show that it was a peculiar compound, which had not been noticed. To

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\* Phil. Trans. 1817. — Phil. Mag. for Feb. 1817, p. 146.

confirm these results, and procure more of the substance, I repeated the experiment with the sulphate and alcohol. In about two days the fluid assumed a darker tint, the black substance began to precipitate in a finely divided state, and in about a week it had all subsided, leaving the fluid colourless and transparent. I afterwards found that the substance in question may be readily obtained by boiling the sulphate and alcohol\* together for a few minutes; it separates in small particles, leaving the supernatant fluid colourless, or with only a slight tinge of yellow. In cases when it is thus procured, a little volatile inflammable fluid, having a peculiar ethereal smell, is also obtained. The substance, after being washed till the water is tasteless and does not affect litmus paper, and dried at a temperature of about 250-degrees Fahrenheit, exhibits the following properties:—

### 2. *Properties of the peculiar Compound.*

The substance is of a black colour, and in small lumps, which are soft to the touch, and easily reduced to an impalpable powder. It readily soils the fingers or paper. It is destitute of lustre. It is tasteless, and apparently unaffected either by cold or hot water. It has a peculiar ethereal smell that is not easily removed, and probably arises from the presence of a little inflammable matter occasioned by the action of the alcohol. It seems to undergo no change by exposure to the air for some time. When it is gently heated, on a slip of platinum or paper, a hissing noise or a feeble explosion is produced, and this effect is accompanied by a flash of red light, and the platinum is reduced. It is insoluble in nitrous, sulphuric, and phosphoric acids; but it dissolves slowly in muriatic acid. It is scarcely affected by chlorine, except moisture be present, when a little muriate is gradually formed. When the powder is put into liquid ammonia, minute globules of air are evolved from it, and after some time it acquires fulminating properties. The quantity of air I have hitherto obtained in this way, has been too small to allow me to ascertain its nature with precision. When the powder is brought in contact with ammoniacal gas, a crackling noise is produced, and it becomes red hot, and scintillates; but by this treatment its external appearance is scarcely altered, though it undergoes a partial decomposition. The powder is immediately decomposed by the agency of alcohol. This fact is shown in an interesting manner by moistening

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\* The alcohol used in this experiment may vary considerably in its strength and quantity, without materially affecting the results. Ether may also be employed as a substitute for alcohol.

different substances, such as paper, sand, cork, &c. with alcohol, and placing the smallest particle of the powder on them; it hisses, a sufficient degree of heat is produced to reduce and ignite the platinum, and it remains in a state of ignition until the alcohol is consumed. During the agency of alcohol on the powder, acetic acid is produced. This is shown by putting a little of the powder on a paper filter, and moistening it with alcohol; a moderate action takes place, and in a few minutes the odour of acetic acid is very perceptible. In some experiments of this kind, the action, though comparatively feeble at first, has presently increased, the powder has become red hot, and the bottom of the filter completely charred. If two or three grains of the powder are placed in a glass, and a few drops of alcohol added, in about half an hour acetic acid will be produced; and as it evaporates and disappears, it may be successively renewed, at longer or shorter intervals, for some weeks, by occasionally adding a little alcohol.

When the powder is boiled in alcohol, it is partially decomposed, and assumes a lighter colour; if it be then thrown on a filter, the odour of acetic acid is soon perceived, and in a few hours the platinum is found reduced, and the paper charred. When the powder is mixed with flowers of sulphur, and heated, a sulphuret of platinum is formed of a blue colour. When the powder is heated with phosphorus, there is a brilliant combustion, and a dark grey phosphoret is formed. Oxygen gas does not affect the powder at the common temperature of the air; but by a moderate heat there is a slight combustion, which seems to indicate the presence of a little inflammable matter.

### 3. *Composition of the peculiar Compound.*

In my first attempts to ascertain the nature of the black powder, I was limited to very minute quantities of it; and I made several trials before I gained any satisfactory evidences of its constitution. I decomposed the powder in long green glass tubes filled with mercury: in such cases, by a gentle heat, the powder became ignited, the reduced platinum amalgamated with the mercury, a little fluid appeared, and some gas was evolved. The fluid reddened litmus, and had an acid taste. The gas rendered lime-water turbid, and was in part absorbed by water and by ammonia; and the unabsorbed portion exhibited properties similar to those of nitrogen. These results seemed to prove that the powder contained acid and inflammable matter; but they were not sufficiently uniform to enable me to place much reliance on them. I then used very small glass retorts, varying in capacity from

4-10ths to 7-10ths of a cubic inch, and decomposed the powder over pure water and over mercury; but the results were most satisfactory when I operated over mercury. From two experiments of this kind, which I beg briefly to detail, as they very nearly agree, I think I may venture to state the composition of the powder under examination.

*Experiment 1.*—Ten grains of the powder were decomposed in a little retort, over dry mercury, by the heat of a spirit lamp. On the first impression of the heat, gas was disengaged; and shortly after, the interior of the retort assumed a reddish yellow colour, (like that exhibited by the vapour of fuming nitrous acid,) and small drops of a colourless fluid condensed in the neck of the retort. After the utmost heat of the lamp had been given to the retort, it was suffered to cool, and the results were immediately examined.

#### *Examination of the Gas.*

The gas remaining in the retort made an ignited piece of wood glow brighter; that which came over (deducting the common air) was 34-100ths of a cubic inch, which diminished to 25-100ths on being transferred to water and agitated. 20-100ths of the unabsorbed gas, on being mixed with an equal volume of pure hydrogen, and fired by an electric spark, diminished to 26-100ths. Hence, the unabsorbed portion of gas contained more oxygen than could have been furnished from the common air of the retort.

From other experiments, the gas absorbed by water was found to be carbonic acid; it rendered lime-water turbid, was absorbed by ammonia, and again disengaged by muriatic acid.

#### *Examination of the Fluid.*

The fluid which rose in the neck of the retort reddened litmus paper, and resembled the nitrous acid in odour, colour, and taste. It acted upon the mercury in contact with the retort, and when washed out by pure water, the solution did not affect the nitrate of barytes, or silver.

The platinum was perfectly reduced, and its particles formed a loosely coherent mass, which could not be removed until the bulb of the retort was broken. It weighed  $9\frac{1}{2}$  grains, and suffered no diminution on being again heated to redness in a platinum cup.

*Experiment 2.*—Ten grains of the same powder as that used in the first experiment, afforded by its decomposition  $9\frac{1}{4}$  grains of platinum, a little fluid agreeing in its properties with that noticed in the former experiment, and 34-100ths of gas, which was examined in a different manner from that of Experiment 1. The gas remaining in the retort was treated

with pure nitrous gas; red fumes were produced, and the absorption was so great, that the mercury presently rose near the bulb of the retort, and was still rising, when its neck was intentionally broken to secure the platinum. Hence it seems the gas in the retort was oxygen.

The gas that came over was first treated with lime-water; an immediate turbidness was produced, and increased by agitation, and 9-100ths of the gas were absorbed. To the residual gas nitrous gas was added, which occasioned a considerable absorption; and the remaining gas, which exhibited the properties of nitrogen, was principally derived from the common air of the retort. By adding a little diluted muriatic acid to the turbid fluid, it immediately became transparent, and the absorbed carbonic acid was slowly disengaged, and the mercury was studded with innumerable little globules of it.

From these experiments, 100 grains of the black powder appeared to contain —

96.25 platinum.
3.75 nitrous acid, a little oxygen, and a minute portion of carbon.
<hr/> 100.00

Though the powder was dried at a heat considerably above  $212^{\circ}$ , it may contain water; and if this is the case, its composition may be differently stated, as deduced from the foregoing experiments.

96.2500 platinum.
0.1200 oxygen.
0.0106 carbon.
3.6194 nitrous acid and water.

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100.0000

#### 4. *Observations, &c. on the peculiar Compound.*

From the preceding experiments, the black powder obtained by the agency of alcohol on the sulphate of platinum, appears to consist almost solely of platinum, with a little oxygen, and the elements of the nitrous acid. The very minute portion of carbonaceous matter it contains is probably accidental. If the constitution of the powder is such as I have stated, a doubt may arise whether it can be considered as a definite compound; but its solubility in the muriatic acid, the facility with which it combines with sulphur, and resists the action of a strong solution of potash at a boiling heat, and its acquiring fulminating properties in liquid ammonia, are all circumstances which favour the notion of its being a true chemical compound. It seems rather

doubtful, whether the powder can be regarded as a sub-nitrate of platinum, or a combination of platinum with oxygen and nitrogen, in a different state from that in which they co-exist in the nitrous acid. On the idea that the powder is a compound of the metal with a little oxygen and nitrous acid, something may be said on the mode of its formation, and on the more remarkable properties it exhibits.

From the manner in which the sulphate of platinum is formed, (namely, by the agency of nitrous acid on the hydrosulphuret of platinum), there can be no difficulty in accounting for the presence of a small portion of nitrous acid in it; and my experiments incline me to the opinion, that it is scarcely possible to separate the last portions of nitrous acid from the sulphate, without entirely decomposing it. That the quantity of nitrous acid in the sulphate must, however, be very limited, appears from this circumstance, that the addition of a little nitrous acid to the sulphate entirely prevents the formation of the black powder, though successive portions of alcohol be added, and the whole boiled for a considerable time.

When sulphate of platinum, containing a little nitrous acid, is treated with alcohol, a mutual action takes place; slowly at the common temperature of the air, but rapidly by the assistance of heat: the sulphuric acid, being united to the oxide of platinum by a weak affinity, seems to form a new combination with the alcohol, whilst the oxide combines with the portion of nitrous acid present, to form the black powder. In certain cases, as is well known, alcohol separates salts from their aqueous solutions, in consequence of a stronger affinity for the water in which they are dissolved; but in this instance, the agencies of alcohol and of nitrous acid are probably concerned in separating the sulphuric acid from the sulphate.

The vivid action of ammoniacal gas on the powder may be referred to the mutual energy with which the alkaline gas, and loosely combined nitrous acid in the powder, act upon each other. I found by experiment, that ammoniacal gas is absorbed in this instance: thus, three grains of the powder were placed in a graduated glass receiver, and filled with dry mercury. 2.3 cubic inches of ammoniacal gas, containing only 1-100th impurity, were let up into the receiver: an immediate action took place, the powder became ignited, and after two hours 3-10ths of a cubic inch of the gas were absorbed: recently boiled pure water, whilst yet hot, was let up into the receiver, and the residual gas was all absorbed, except a small globule, which did not exceed the original impurity in the ammonia.

The action of alcohol on the powder is curious, and is connected with the decomposition of both substances. When the powder is brought in contact with the vapour of alcohol, at the common temperature of the air, there is an immediate chemical action; the heat generated is sufficient to reduce and ignite the metal, and to continue it in a state of ignition, until the alcohol is consumed. In this case, the acid first noticed by Sir H. Davy, (in his beautiful experiment of the ignited platinum wire, and since more fully examined by Mr. Daniell), is produced. In other instances, the acetic acid, as has been mentioned, is formed. It would be premature to speculate on the uses to which this powder may be applied; but, from its peculiar properties, there is reason to think it will admit of some useful applications. I have already employed it as an easy means of affording heat and light. To produce heat, it is only necessary to moisten any porous substance, such as sponge, cork, cotton, asbestos, sand, &c., with alcohol or whiskey, and to let a particle of the powder fall on the substance so moistened; it instantly becomes red hot, and remains so until the spirit is consumed; nor is the ignited metal extinguished by exposure to the atmosphere, or by blowing the breath on it; on the contrary, partial currents of air only make it glow brighter. The heat produced in this way may be accumulated to a considerable extent, by increasing the quantity of the materials employed. I have also constructed a tinder-box, to procure immediate light by means of the powder. It consists of two small phials placed in a japanned box, and some sulphur matches tipped with phosphorus. One of the phials contains the powder; the other, alcohol. The stopper of the phial containing the alcohol has a bit of sponge inserted in a small aperture at the bottom of it. When a light is wanted, it is only necessary to shake the bottle so as to moisten the sponge with the alcohol, take out the stopper, and put the smallest particle of the powder on the moistened sponge; it instantly becomes red hot, and will readily kindle one of the matches. This mode of igniting a metal seems to be quite a new fact in the history of chemistry; but the means of keeping it in a state of ignition is only another illustration of the facts previously pointed out by Sir H. Davy, in his late valuable researches, which have thrown so much light on the philosophy of flame, and led to such very interesting, important, and unexpected results.

*(To be continued.)*

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**PART IV.**  
**FOREIGN MEDICAL SCIENCE AND**  
**LITERATURE.**

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I. ANALYSIS OF JOURNALS. (French).

*New Journal of Medicine.*

**JULY, 1820.**—*Memoir on the Application of Leeches to the Conjunctiva Palpebrarum in Ophthalmy.* By Dr. Velpeau.—In this memoir, the application of leeches to the membrane of the lower eyelid, in ophthalmy, is very strongly recommended; and five cases illustrative of the efficacy of this method of depletion are minutely detailed. In the three first of these cases, the inflammation succeeded the operation for cataract; and in all of them, the means here indicated seem to have been productive of most decided benefit, after the ordinary methods of sanguineous depletion had been tried in vain. Our readers will, we apprehend, find the intimation here thrown out worth their notice.

*Memoir on Counter-Fractures of the Lower Jaw.* By Dr. J. Cloquet.—(See the Bulletin of the Faculty for the present month.)

*Memoir on a New Process for discovering the Mineral Poisons, &c.* By Professor Orfila.—(See the Foreign Department of our last three Numbers\*.)

**BULLETINS OF THE FACULTY OF MEDICINE OF PARIS, &c.**  
**1820. No. VII.**

*General Considerations on the Mode of Administration of Medicines; and Observations on the Internal Employment of Acetate of Lead.* By Professor Fouquier.—Arranged and published by Dr. Ratier.—After detailing the precautions employed to preclude the possibility of deception in the experiments, made with a view of ascertaining the precise operation of various articles of the materia medica on the animal economy, and refuting the objections which may be advanced against their accuracy, the author circumstantially narrates thirteen cases illustrative of the efficacy of acetate of lead, in suppressing the colliquative sweats of phthisis pulmonalis. The results appear to be stated with great candour and impartiality, and from them the following corollaries are lastly drawn:—The acetate of lead is endowed with a peculiar property, by virtue of which it suppresses the colliquative

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\* Volume XIV., pages 336, 423, and 509.

sweats of phthisis. This action may be considered as specific, since it takes place almost constantly, and independently on circumstances which would seem to oppose it. This substance cannot correctly be accused of producing the lead colic. It may be administered without danger to the amount of twelve grains a day. The mean dose is from four to eight grains. A certain quantity must be introduced in order to produce its sensible effect. As the sweats of phthisis, kept up by a permanent cause, have a tendency to recur on the cessation of the remedy, the employment of the acetate of lead should obviously be continued.

In the bodies of those whose death afforded the opportunity of examination, the intestinal canal seems not to have exhibited any trace of injury from the administration of this powerful remedy. It was invariably given in the form of pills. The expectation held out by some authors of the cure of phthisis by acetate of lead, is acknowledged to be quite illusory. In none of the cases here recorded does the salt, although largely given, appear to have induced severe colic.

*Report of Professors Marjolin and Beclard, on a Memoir of Dr. Jules Cloquet, containing several Cases of Counter-Fracture of the superior Maxilla.*—The first and principal fact contained in this memoir, is the case of a man, aged thirty-six, who, having fallen through a trap-door, remained suspended by the chin on the border of the opening; while the door itself, weighing more than three hundred pounds, fell on the summit of the head\*. From this violent percussion resulted a severe commotion of the brain, and fracture of the superior maxillary bone.

The second case is that of a slater, who, in falling from a house, came in contact with the lower part of the chin against a piece of timber. Among other injuries which resulted from this fall, and terminated fatally, the inferior alveolar process and incisor teeth, were fractured and driven inward, and the superior maxillary bones fractured. On dissection, both superior maxillary bones were found fractured across; one above, and the other below the floor of the orbit. On one side the fracture was continuous externally, with dislocation of the zygomatic from the frontal and sphenoidal bones; and, on the contrary side, it extended below the articulation of the other zygomatic bone.

The third case recorded by Dr. Jules Cloquet does not allow one to determine positively, as in the preceding

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\* This curious accident is illustrated by a slight, but spirited engraving, attached to the memoir of Dr. Cloquet, in the "New Journal."—F. E.

instances, whether the fracture were produced directly or by a counter-blow.

Lastly, it sometimes happens that in blows inflicted on the chin, in cases of pressure wherein the head has been caught between the two extremities of its vertical diameter, the injury, instead of being as severe as in the cases above detailed, is confined to fracture of the teeth, or of the superior alveolar process.

Counter-fracture of the superior maxillary bones not having been observed and noted by theoretical writers, Dr. Cloquet has thought it expedient to enter into some details on the mechanism of these fractures.

By the term counter-blow is in general understood, an injury by a blow in a different part from that whereon it had been inflicted.

Taken in this acceptation, the *contre-coup* is a very frequent mode of lesion: all, or almost all dislocations, and many fractures, are produced by this mechanism.

Whenever a fracture of any bone by percussion has not taken place in the part stricken, it has been produced by *contre-coup*; and thus a long and curved bone, pressed between its two extremities, breaks in some point of its length. In a fall upon the point of the shoulder, for instance, the clavicle is frequently fractured in its middle. In this case, and in many others of an analogous description, there is at first a curvature or flexion of the bone; and beyond the limits of this flexion fracture occurs. In other cases, on the contrary, without there being any sensible change in the form of the part stricken, the shock is transmitted, and grows successively weaker till it is spent. Sometimes a slightly resistant bone occurs in its passage, and is fractured. Thus in a blow upon the cranium, a portion of the parietes of this cavity at some distance from that which had received and resisted the blow is fractured.

Again, it may sometimes happen that the head, or some other bony cavity, without being stricken, may be pressed between the two extremities of one of its diameters, resist in the two points directly pressed, and give way at an intermediate part. Thus, in submitting a dead cranium to the pressure of a vise, and protecting by folds of linen the parts immediately pressed upon, a fracture will occur in some intermediate, and commonly in a weaker point.

In the first case recorded by Dr. Cloquet the fracture seems to have taken place by the double mechanism of the shock and double pressure; and in the second, principally by the mechanism of the shock. Suppose, as a striking illustration, the common case of three nuts placed in a line; the middle

one being more fragile than the others, and either extremity of the series being forcibly stricken or pressed upon, the middle nut alone will certainly be broken. This trifling explanation is only given for persons who have no idea of mechanics, and for the sake of removing all doubts on the reality of the facts reported by Dr. Cloquet.

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## PART V.

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# MEDICAL AND PHYSICAL INTELLIGENCE.

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TO THE EDITORS OF THE LONDON MEDICAL REPOSITORY.

GENTLEMEN, — Agreeably to the intimation conveyed through the medium of your valuable publication\*, I now take leave to communicate the result of my observations upon senna, preparatory to the detail of which, I am led to offer some explanations of personal interest to myself.

It is my design to proceed with as much diligence as the nature of my pursuits will permit, to convey to the Profession *all* the results of my observations upon vegetable chemistry; and I have chosen to select for the earliest communication, three subjects; namely,

Senna,  
Bark,  
Opium.

Because each is an important medicine; and because I feel that I have been misunderstood or misrepresented by Dr. Paris in respect of each.

I regret that in narrating Dr. Paris's conduct, in respect of my preparation of these medicines, I have occasion to record particulars which I have hitherto refrained from bringing into public notice; *and which nothing short of the continued unfavourable notice which Dr. Paris has been pleased to take of my name, could have induced me to detail.* And, conceiving explanation to be proper, I am led to state the circumstances which have occurred, in detail, in order, not only that the merits of the discussion may be understood, but that I may avoid the imputation of having given "garbled extracts."

In the month of June, 1819, Dr. G. G. Currey, one of the Physicians of St. Thomas's Hospital, mentioned to Dr. Latham, then President of the College of Physicians, that I had made considerable progress in the improvement of pharmaceutical preparations, and that I had formed a museum of materia medica; upon which Dr. Latham expressed a wish to see both my museum and laboratory.

Dr. Paris was at that time delivering a course of lectures at the College of Physicians; and I availed myself of the opportunity of attending the President at the College upon an early day, when Dr. Latham appointed the following day of lecture for calling upon me, with such of the gentlemen of the College as might choose to accompany him.

Accordingly, on the day of the following lecture, Dr. Latham, Dr. Hue, Dr. Paris, and other gentlemen, visited me.

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\* LONDON MEDICAL REPOSITORY.

I exhibited to them various specimens of medicine, particularly the separations of opium; and stated that I had lately discovered a new solvent of opium, two preparations of which I particularly pressed upon their attention, particularly upon the attention of Dr. Paris. I also diffused the sedative component of opium in distilled water, and pressed the President to appoint a time when he and the gentlemen of the College would attend to the process of decomposing opium, so far as I might be able to effect it. Upon visiting the laboratory, the gentlemen were pleased, in the most marked and pointed terms, to express their approbation of its arrangement and construction. Many other observations and explanations occurred; and, in conclusion, I requested the favour of being permitted to dedicate a work which I contemplated, upon pharmacy, to the President and Fellows of the Royal College. The request was obligingly assented to; and it was also agreed, as I understood, *that I should not be publicly anticipated in the communication which I had then made, every particular of which I declared my intention to publish in this intended work.*

About four months afterwards, namely, on Saturday, the 9th of October, Mr. Whitfield, of St. Thomas's Hospital, informed me, that on Thursday, of the preceding week, at the dinner of the President and Fellows of the College, which ensued upon the choice of officers for the year, Dr. Currey had informed him that a gentleman, one of the Fellows, had stated that he had *detected me*; that, being struck with the colour of the powder of senna which he had seen in my museum, in company with the President and other gentlemen, and wishing to ascertain its purity, *he had called in Fore Street*, and asked for some of the senna, from which the powder of senna in the museum had been procured; that he received some, but after beating it for some time, he failed in producing a similar colour; that within a day or two *he had called again in Fore Street, and related what had occurred*, and that he then received from me some senna, *accompanied by the assurance that it would yield the powder required*; that upon closely examining this parcel of senna (repeating that he had it from me,) he found some hard substance, which he conceived to be indigo, *and, as a proof that it was indigo*, he had procured some of the senna powder, yellow, usually found in the shops, and some indigo; that he had mixed them at the Royal Institution, and had obtained a green powder, resembling in colour that which he had seen at my house.

In consequence of this communication by Mr. Whitfield, I called on the following morning (Sunday) upon Dr. Currey, when he repeated this statement, adding, that the speaker had repeated the story twice. I then told Dr. Currey, that the tale was untrue, and requested the name of its author. After deliberating upon the propriety or expediency of previously seeing the party, Dr. Currey gave me the name of Dr. Paris; *upon which I declared that I had not seen Dr. Paris since he called upon me in June, with the President and other gentlemen.*

From Dr. Currey's house I proceeded immediately to Dr. Paris's, in Dover Street; the leading particulars of my interview with whom, are detailed in the letter which I addressed to Dr. Paris on the 21st of October, of which the following is a copy. Between the date of this letter and the 10th, the day on which I had seen Dr. Currey and Dr. Paris, I sent to the latter samples of the infusion of the powder of senna and of powder of senna; and likewise offered the use of my tests for the discovery of any colouring matter, if combined. I also informed him the time at which I should be engaged in pulverizing senna.

From Mr. BATTLEY to Dr. PARIS.

SIR, — I beg leave respectfully to remind you that I have not had the honour, nor received the satisfaction, of hearing from you on the subject of my personal application to you on the 10th instant.

Wishing, anxiously, as far as may be consistent with a becoming regard to character, to avoid whatever may tend to excite unpleasant feeling, I should have been relieved from the inconvenience of the present appeal to your justice, if you had thought proper to notice the circumstances which have occurred in respect of my preparation of senna, in any satisfactory manner.

Your silence will, I trust, justify me in retracing those circumstances.

I had been informed, by a gentleman who feels for me the warmth of a kind and interested friend, that, in a very high professional society, it had been openly and distinctly stated —

That difficulty had been experienced in producing a preparation of senna, equal, in appearance, to the preparation which had been some time previously exhibited, by me, to the president and other members of the Royal College of Physicians;

That, in consequence, application had been made to me for some of the senna from which my preparation had been produced; and that, the difficulty having still been experienced, application was again made to me by the individual then making the communication;

That I furnished the applicant, last mentioned, with more of the senna; and that minute particles of colouring matter were found therewith, which, being separated, were found to be indigo;

That, on compounding senna and indigo, the precise appearance required, namely, **GREEN**, was produced;

And that the comment which ensued upon my name was of a marked character.

I had been further informed, that you, sir, were the party from whom the communication proceeded; and I therefore had the honour to call upon you, at your house, on Sunday, the 10th instant.

When made acquainted with the object of my visit, you admitted, generally, your cognizance of the subject; and stated your willingness to make me acquainted with every particular, observing, that you had “detected me.” You then produced from a drawer some papers, containing preparations of senna, one of which you presented to me, inquiring whether that was mine? to which I replied, that I believed it was. This preparation was of a green colour. You then exhibited another paper, containing a preparation of senna of a yellow colour, and some large leaf senna; upon which I observed, that the quality of the yellow powder was bad, that it either was originally bad, or had been marred in the preparation; and on inquiry I learnt that both the yellow powder and leaf had been procured at Apothecaries’ Hall, and that the powder was produced from the same parcel as the leaf then produced. A third paper contained small senna leaf, which you informed me was mine, and at the same time stated, that the first-mentioned green powder was not mine, but yellow powder from Apothecaries’ Hall, coloured with indigo. On my inquiring where the small leaf senna had been procured, you informed me that it was obtained from Mr. Selway, of New Cavendish Street, who had represented that he had had it from me; that on carefully examining this sample, you had discovered some minute particles, which you said were colouring matter, namely, indigo or charcoal, to which you ascribed the beautiful green appearance of the powdered senna which I had exhibited to you, when you did me the honour to call upon me with the President of the College and other gentlemen; and that you had been confirmed in that conception by the fact of your having mixed a small quantity of indigo with the powdered senna received from Apothecaries’ Hall, which produced a green powder, in appearance precisely similar to mine. I then explained to you, that you had entirely mistaken the matter; and proceeded to state the particular means by which, without any foreign mixture whatsoever, I obtained the green powder; upon which you

appeared to be shaken in your conclusion, and said, that I should admit that you had apparent ground for the opinion which you had formed, and the representation you had made. I then spoke in terms of severe reprehension, of the course you had unfortunately allowed yourself to take in a matter involving all that was of value to me, in point of character, in my business; and said, that I would exhibit the process by which I had proceeded for procuring my preparation of senna to the President and College of Physicians, if required. You then observed, that the communication which you had made was in a private society; that it could not, therefore, have the consequences which I apprehended, and ought not to have been mentioned to me. Upon my observing that I should consider what further steps I should adopt, I took my leave.

I have since addressed to you several notes; and have forwarded to you senna, in various forms, for the purpose of illustrating the subject.

I may be permitted, sir, without arrogance, to say, that I have been fortunate in the pursuits of pharmaceutical chemistry. I have sought to establish a reputation by means of industry and integrity. Petty impediments I am prepared to expect; but I really feel that more than common obstruction is opposed to me. You are well aware, sir, that I have considered myself, in this respect, aggrieved by the Company of Apothecaries, who have, on more than one occasion, by their censors, in terms varying in degree, censured preparations with which I have supplied Practitioners, although I have, in every instance, been fully prepared to demonstrate the superior quality of the several articles.

You will also, I am persuaded, recollect, that when favoured by the attention of yourself and other gentlemen of the College, in calling upon me, I offered, voluntarily, to disclose to you the various means by which I obtained my preparations; that I offered the communication of whatever I knew. It has been the *habit of my mind* to consider the little information I have acquired as professional, or rather public property.

You will admit that my cause of complaint is great, when I find that you have not only permitted yourself to entertain an unfavourable and erroneous impression, without allowing me an opportunity of explanation, but have actually given countenance to similar impressions in the minds of others; and even more, have, in unqualified terms, made a representation calculated to spread, to undefinable extent, the same unfavourable and erroneous impression.

I have now to declare, that my green powder of senna is perfectly pure, and wholly free from any foreign colouring matter. The method by which I procure that appearance is known to you. The time approaches, when I shall unreservedly explain that and other matters of much higher importance to those who will honour me with their attention; and I trust that you will not consider that I ask too much, when I request that you will oblige me by explaining, by letter, to the several gentlemen who were present when you spoke unfavourably of my preparation of senna, that you withdraw the observations which you then made, under the perfect conviction that you were mistaken, or had been misinformed on the subject.

Waiting the favour of your reply,

I am, Sir,

Your very obedient servant;

RICHARD BATTLE.

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From Dr. PARIS to Mr. BATTLE.

Dover Street, October 22, 1819.

SIR, — I should have long since acknowledged the receipt of the different specimens of *senna*, with which you have favoured me, had I not been pre-

vented by professional engagements, which called me into Surrey, and latterly, by a severe sore throat, which renders me very unfit for business. I deem it right to say thus much, that you may not suppose I have a disinclination to inquiry; on the contrary, I court it: and I shall be ready to acknowledge any fallacy into which I may have been betrayed, as soon as I am convinced of its existence; but I require evidence less exceptionable than that which is furnished by an examination of the specimens you have sent me. I shall only observe, on this occasion, that the *memorandum* with which I was favoured yesterday, contained the substance, but, in some points, certainly not the spirit of the conversation which took place in Dover Street. I certainly did not consider your address to me as one of "*severe reprehension*;" and it is perhaps as well that I did not; for I assuredly had no right to expect it, at your hands at least. I have not intruded myself into your laboratory as a private and inquisitive individual, nor as a friend, or a person in any manner interested in the inquiry: but I came, in the face of day, by *special* invitation, avowedly in an official situation, as Professor of *Materia Medica* to the Royal College of Physicians; and I trust that I have upon that, and shall upon every other occasion, in which I may act in that character, sustain it with the impartiality and firmness it requires, and with a due regard to that candid and honourable feeling which has ever distinguished the officers of the College. I can have no personal or unfair hostility towards *you*; and you must know it. I was not in the least aware even that any difference had taken place between you and the Apothecaries' Company; and if I had, what influence could it have produced upon me? Here is a fact universally asserted in the trade—*Mr. Battley's senna powder is unnatural in colour; the leaves cannot yield a powder of such an aspect. This was long anterior to my having seen a specimen of it*; and upon Mr. Selway's stating this to you, you proposed sending him some of *your* leaves, as you stated that *his* were incapable of producing it; and you actually *did* send Mr. Selway three pounds of this article; and the note which accompanied them now lies on the table before me. How is this to be reconciled with your statement respecting the peculiar mode in which you produce the green powder? But why, I ask, is all this secrecy and mystery? If you had made an improvement in this branch of pharmacy, why not avow it—and receive the approbation of the Profession? which, to a person in your line of trade, must be more acceptable and useful than any petty advantages which may attend the possession of a secret. The *greenish brown* specimens of senna, which I have lately received from you, are altogether different from the *bluish green* powder upon which we are at issue. This latter article is the one of which the trade complains. The circumstances which led me to suspect that its colour was owing to foreign admixture are known to you; but I will here repeat them. A portion of the *pulvis sennæ* from Apothecaries' Hall was triturated with a very minute portion of indigo, when a powder perfectly analogous to yours resulted. Another portion was then triturated with the black particles, picked out from your senna leaves, in considerable quantities; an analogous powder resulted. This black matter I have ascertained to be charcoal; which, when triturated with great minuteness, and in certain proportions, would seem to act as an intense blue, imparting to the powder in question the peculiar hue which distinguishes it. At a late meeting of the college I stated to Dr. Currey, that my opinion respecting the presence of indigo was not borne out by experiments. One word more, and I have done.—I repeat, that the opinion given to several fellows of the college after dinner, cannot be considered as a public opinion, solemnly delivered; and that you can have no right to complain, on this account, of my want of candour towards you.

I remain,

J. A. PARIS.

P. S. In the inspection of your laboratory, there was, in my opinion, much to admire and commend. I was particularly gratified with the method in which you dried narcotic leaves; and the specimens of *materia medica* were very superior to those which I have been accustomed to examine. On the other hand, I object to your method of making certain extracts without spirit—it is contrary to the mandate of the college—and moreover, it is contrary to all the established principles of pharmacy; unless you can show that mechanical mixture and chemical solution are identical. Here, then, you see, I am bold enough to hazard another opinion; for which, I have no doubt, you will thank me; for “*it is the habit of your mind to consider the little information you have acquired professional, or rather public property;*” and consequently a subject for professional or public discussion.

From Mr. BATTLEY to Dr. PARIS.

Fore Street, Oct. 23, 1819.

SIR,—I respectfully beg leave to request the favour of being informed, before I reply to your letter of yesterday, in what sense I am to understand the word “*memorandum*,” which you apply therein to my letter of the 21st instant.

I remain, Sir,

Your obedient servant,

RICHARD BATTLEY.

To this letter I did not receive any answer; and here all direct communication between Dr. Paris and myself ceased. I considered the language of Dr. Paris, in the use of the word “*memorandum*,” as bearing a character of insult, and required explanation before I could proceed to answer his letter. That explanation being withheld, our correspondence terminated.

The reproof and reproach of Dr. Paris, conveyed by his letter, and in other places, I understand to turn, as to one particular, upon my withholding the explanation of the methods which I use in preparing senna and other medicines. With what fairness, propriety, or *truth*, this objection can be urged, I leave to the decision of the Profession.

I have, at very considerable expense, formed an establishment for the preparation of medicines—in which my business consists—the business upon the success of which, I rely for the maintenance of the independence of conduct and character which constitute the reasonable and proper object of desire in all men. I have directed my attention assiduously to the advancement of pharmaceutical chemistry; with what success the Profession will judge: and if I give the true, and, as far as I can, elementary designation or character to medicines, I am unable to discover by what authority, with what show of reason or propriety, I can be called upon to reveal the particular methods which I use, in separating, dividing, or preparing vegetable or other substances, to be used in the curative art. If it can be shown that I have given an improper name to any substance, or that I have adulterated, instead of having separated and simplified, I shall be open to animadversion. Until such can be shown, I object, even upon this ground, that I am unfairly treated by Dr. Paris.

But, however well entitled to maintain this ground, I have again and again declared, that whatever I might know in respect of pharmacy, I was desirous of communicating to the Profession.

I wish to be *well* understood upon this point; and to show that, although I have not yet fully communicated my views on many of the subjects which I have investigated, the attempt to bring me into an obnoxious or contemptible point of view, as a dealer in “*nostrums*,” can very little consist

with candour or the love of truth : and that such attempts *have been made* by Dr. Paris, will very plainly appear, particularly when I treat of opium.

To show the propriety and decorum of such conduct, I refer to the several public communications which I have already made : namely,

A paper on drying narcotics, and on narcotic extracts \*.

Ditto on Sarsaparilla, (LONDON MEDICAL REPOSITORY.)

Ditto on Colchicum †.

Ditto ditto ‡.

Ditto on Conf. Aromat || .

I have also on two occasions, at St. Thomas's Hospital, explained and practically illustrated processes by which I proceed in the preparation of narcotic medicines, and also the different effects produced by chemical re-agents §.

My letter of the 21st October to Dr. Paris declares it to be the habit of my mind, "to consider the little information I have acquired as professional, or rather public property."

My letter of the 17th January last, addressed to the President of the Royal College, states, that "having been fortunate in ascertaining some facts, the importance of which is attested by the opinion and judgment of many of the most respectable members of the Profession, I am desirous of imparting to the Profession generally, and particularly to the student in medicine, such information as will lead to the more accurate knowledge and discrimination of perfect from less perfect drugs and medical preparations, and will direct the inquirer to the modes by which I attain the several results."

"I have lately been permitted to supply the preparations and other materials for a museum of materia medica, at the Royal Hospital of St. Thomas ; and I am allowed to exhibit, at that establishment, the perfect and imperfect specimens and preparations of medicines, arranged in series, for the direction of the judgment in this important branch of medical science, as well as the use of the laboratory which has been constructed upon the plan of my own for any purpose of explanation or illustration when required for such purpose."

"Reserving to myself the privilege of choosing my own time for communicating the several particulars which I may wish to explain, and which must

\* LONDON MEDICAL REPOSITORY, No. 21, page 197.

† *Ib.* No. 79, p. 29. ‡ *Ib.* No. 83, p. 429. || *Ib.* No. 84, p. 511.

§ The following is a copy of my circular of the 30th May last :

SIR,—The series of experiments on hemlock, upon which I have for some time past been employed, having terminated in results which appear to me to be of some value and importance in the practice of medicine, I purpose showing the several processes by which I proceed at the laboratory of St. Thomas's Hospital, on Friday next.

The time required for this purpose will necessarily be considerable ; and the whole proceeding will be open to the examination of the Profession from the earliest hour in the morning.

The process of powdering, which will probably be considered as the most interesting, will be in progress about one o'clock ; when, or at any other time, I should be gratified by the attendance of gentlemen who may wish to direct their attention to the subject. I hope to avail myself of a further occasion, before the close of the season, to develop other interesting facts in pharmaceutical chemistry.

I remain, Sir,

Your obedient humble servant,

RICHARD BATTLE.

Fore Street, May 30, 1820.

necessarily, from time to time, depend upon the maturity of my own judgment, &c."

To these facts and pledges I appeal, against the imputation repeatedly attempted to be cast upon me by Dr. Paris, even in the last and fourth edition of his "Pharmacologia."—See note, p. 470, 4th edition.

And the "Index to the Patent Medicines and Nostrums" the same work in which class, under the motto, "*Arcana revelata foetent.*"—Boerh., the sedative separation of opium is placed.

I deem it necessary particularly to notice two points only of Dr. Paris's letter.

First, His observation that the specimens of powder of senna which I sent to him, differed from the powder of senna of which complaint had been made.

Secondly, That my method of making certain extracts without spirit is objectionable.

Dr. Paris states that the specimens of powder of senna which I sent to him were of a *greenish brown*; and that the specimens complained of were of a *bluish green*.

This difference arose from the minute attention with which the leaves from which the *greenish brown* powder was produced, were cleared from admixture or impurity; a degree of attention which cannot be extended to the preparation of large quantities for sale.

I have been assured, that the process of drying senna is *completed* at Boulac, on the Nile, by means of charcoal fires, in sheds; which accounts for the charcoal invariably found in the Egyptian senna, with which other impurities, such as lime, pebbles, sand, dust, stalks, &c. are also found.

In some parcels of senna, indeed pretty generally, a quantity of small hard black grains, uniform as to size, are found. These grains are the excrementitious matter of a species of grub\*.

The objection of Dr. Paris to my method of making extracts, will be answered in a paper on bark, which will be the subject of my next communication.

I deem it right to add, that Dr. Paris has published two editions of the *Pharmacologia* since the date of my correspondence with him; that he has not availed himself of such opportunities to do me justice on the subject of senna; but that, on the contrary, he has rendered these publications the vehicle of unfavourable notices of my name, as connected with other subjects.

I proceed to state the results of my examination of  
Senna†.

Senna, as usually found, gives a powder of a dull yellow, with a green tinge, more or less dingy, as the quantity of charcoal, and animal and other matter mixed with the senna, varies. The same senna dried at a high temperature, say 170 degrees, appears, when powdered, of a bright green, likewise varying in brilliancy, as more or less free from extraneous matter: if a large proportion of charcoal and animal matter be present, the colour will

\* Similar animal matter has been found in considerable quantity in a parcel of rose leaves, weight 17lbs.; in which, upon inspection three or four weeks after drying, numerous grubs were discovered to have imbedded themselves; and at the bottom of the box were more than half a pound of uniform small grains of a beautiful morone colour; these grains were found to be excrementitious matter. Grains of the like kind may be observed in decayed rhubarb, &c.

† An excellent account of the growth, collection, and subsequent management of senna, may be found in the "*Mémoires sur l'Égypte*," vol. ii.

deepen to a French green. The small senna is always much encumbered with such matter\*.

The temperature of 170 degrees neither destroys the flavour nor the purgative properties. If the leaves be macerated in successive changes of water, till the water cease to act, the powder obtained from these leaves is superior, in brilliancy and permanence of colour, to the powder from leaves which have not been so macerated, provided the leaves be dried with sufficient care, at the temperature of 170 degrees.

Senna, macerated in successive portions of water, loses more than half its weight. The cold infusion is of a pale brown, and the leaves become of a pale olive green.

(To be continued.)

It has been always known, both to Physicians and Surgeons, that fomentation, or the application of moisture at a certain temperature, had great efficacy in allaying pain and abating inflammation; but hitherto no means have been devised for the continued employment of this remedy. An apparatus for this purpose has been lately contrived by Dr. Macartney, of Dublin, which promises to produce the most beneficial effects, even in recent wounds of the worst kind. In a case of punctured and lacerated wounds, in which the palmar fascia was penetrated and partially torn out, the hand was placed in the vapour of water at 97 degrees Fah. *immediately* on receiving the injury, and detained in it during twelve hours, without intermission. By these means all pain and inflammation were prevented. Lint, wet with water, was subsequently applied; the wounds speedily healed without suppuration; the surface gradually closed, instead of filling up with granulations, and the cicatrices left are of the best possible kind.

#### LITERARY NOTICES.

In the Press, in one very small volume, "Observations on the Climate of Penzance, and District of the Land's End in Cornwall," &c. By Dr. John Forbes, of Penzance.

In the Press, and will appear in January, a Treatise on the Epidemic Cholera of India. By James Boyle, Surgeon to His Majesty's ship Minden.

Professor Robbi, of Leipsic, has lately published a German Translation of Mr. Curtis's Treatise on the Physiology and Diseases of the Ear. The subject appears to be entirely new in Germany; and the Professor has enriched his Translation with many valuable Notes highly complimentary to the Author, and strongly recommends to his countrymen an institution similar to the Royal Dispensary for curing Diseases of the Ear in this country; to his Translation he has prefixed Mr. Curtis's Original Plate of Acoustic Instruments.

In the Press, and speedily will be published, the Principles of Forensic Medicine. By J. G. Smith, M.D.

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\* This arises from the separation of the large from the small leaf, by means of the sieve, which passes most of the charcoal, animal matter, and other impurities with the *small* leaf. At the same time the extremities of the large leaves, *in which I have ascertained much of the colouring matter of the leaf to reside*, also pass through the sieve, and admix with the smaller leaf. The small senna, therefore, *if well cleaned*, should, and *actually does* produce a powder of a higher or fuller colour than the large leaf. *If not well cleaned*, the colour of the powder of the small leaf should be dull, heavy, or dingy, as compared with the powder of the large leaf; and it is found so to be.

Mr. S. F. Gray has in the Press, and nearly ready for publication, a new and greatly improved Edition of his Supplement to the Pharmacopœias.

A new and enlarged Edition of Mr. A. Thomson's Conspectus of the London, Edinburgh, and Dublin Pharmacopœias, will be published in January.

Dr. Ramsbottom has nearly ready for publication, in one volume, 8vo. Practical Observations in Midwifery; with a Selection of Cases.

On the 31st of January, 1821, will be published, No. 1, and continued monthly, of the British Domestic Herbal; being a correct Description of British Medicinal Plants. Intended for the Use of Families, and for every Purpose of Domestic Medicine. Illustrated by Plants, accurately coloured according to Nature.

Preparing for publication, (Second Edition), an Analysis of the Medicinal Waters of Llandeindod, in Radnorshire; with Observations upon the Diseases to which they are applicable, and Directions for their Use. To which is prefixed, a Topographical Account of the Place. By Richard Williams, Surgeon at Aberystwyth; Licentiate of the Society of Apothecaries, Honorary Member of the Physical Society of Guy's Hospital, &c. &c. &c.

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#### NOTICES OF LECTURES.

Dr. Uwins will commence his Spring Course of Lectures on the Theory and Practice of Medicine on Thursday, January the 25th, at a quarter before Seven in the Evening.

Mr. Taunton will commence his next Course of Lectures on Anatomy, Physiology, Pathology, and Surgery, on Saturday, January the 20th, 1821, at Eight o'clock in the Evening.

Dr. Davis will commence a Course of his Lectures on the Theory and Practice of Midwifery, and on the Diseases of Women and Children, at his House, 29, George Street, Hanover Square, on Tuesday, the 2d of January, 1821, at half-past Ten o'clock in the Forenoon.

Medical Theatre, Great Windmill Street.—The following Lectures will recommence at the above School, on Monday, January the 22d, 1821, and terminate in May. The Summer Courses will begin on Monday, the 4th of June, and conclude in September. On Physiological Pathology, and Practice of Physic, by Richard Harrison, M.D., Fellow of the Royal College of Physicians, &c. on the Mornings of Monday, Wednesday, and Friday, at Nine o'clock. The basis of the arrangement upon which these Lectures are delivered is strictly Anatomical. On the Materia Medica, including the Doctrines of Pharmaceutic Chemistry, Pharmacology, and Therapeutics, by John Ayrton Paris, M.D., F.L.S., Professor of Materia Medica to the Royal College of Physicians, &c., on the Mornings of Monday, Wednesday, and Friday, at Ten o'clock. These Lectures are illustrated by numerous Experiments, an extensive Series of Specimens, and by a variety of original Drawings and Diagrams. Further particulars may be obtained by applying at the Medical Theatre, Great Windmill Street; at Dr. Paris's House, No. 28, Dover Street; at Dr. Harrison's, No. 8, Argyll Street; at Burgess and Hill's, Great Windmill Street; or at W. Phillips's, George Yard, Lombard Street.

Royal Dispensary for Diseases of the Ear.—Mr. Curtis will commence his next Course of Lectures on the Anatomy, Physiology, and Pathology of the Ear, and on the Medical Treatment of the Deaf and Dumb, on Thursday, January the 4th, 1821.

## A METEOROLOGICAL TABLE,

*From 21st of NOVEMBER to 20th of DECEMBER, 1820,*

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain		Winds.	Weather.
	Max.	Min.	Max	Min.	Gauge.			
21	29	36	29	35	51	40	01 SE.	124 Cloud... 3 Rain.
22	29	36	29	26	45	40	35 S.S.E.	1 Sun... 3 Cloud... 4 Rain...
23	29	26	29	24	45	35	06 E.	1 Rain. 2 Cloud...
24	29	36	29	36	43	32	SW.	1 Sun..
25	29	36	29	35	45	41	09 E.N.E.	1 Cloud... 4 Rain.
26	29	60	29	54	46	40	02 E.S.E.	1 Cloud... 2 Sun. 3 Rain. 4 St.
27	29	75	29	67	46	36	SE.	1 Cloud...
28	29	82	29	78	42	36	E.	1 Cloud...
29	29	94	29	82	46	33	N.E.N.	13 Cloud... 2 Sun.. 4 Star....
30	29	82	29	74	43	50	W.	1 Sun....
1	29	62	29	48	40	34	SW.	1 Cloud...
2	29	62	29	57	46	37	09 W.N.W..	1 Sun.. 4 Rain.
3	29	48	29	42	50	38	03 S..S.W...	1 Sun.. 2 Rain.
4	29	49	29	40	54	49	SW...	1 Sun.. 3 Cloud...
5	29	63	29	45	53	36	26 SW...	13 Cloud.. 24 Rain...
6	29	52	29	46	51	37	07 Vble.	14 Cloud... 23 Rain.
7	29	53	29	51	54	49	01 SW...	1 Cloud... 3 Rain.
8	29	67	29	66	53	48	SW...	1 Sun..
9	29	51	29	38	53	48	02 SW...	1 Show. & Sun.
10	29	32	29	26	54	48	11 SW...	1 Sun.. 4 Rain..
11	29	39	29	35	52	39	16 W.N.E.	1 Sun.. 4 Rain..
12	29	37	29	35	40	33	39 NE.	1 Rain....
13	29	59	29	46	36	29	07 NE..N..	1 Sun.. & Show of Snow.
14	29	67	29	65	35	27	N.	1 Sun.. 2 Cloud.. 4 Moon...
15	29	58	29	44	35	27	NE..SE..	1 Cloud... 4 Moon..
16	29	33	29	32	33	28	31 SE..	1 Cloud... 4 Snow....
17	29	64	29	52	37	32	ESE.	1 Cloud...
18	29	73	29	68	42	23	10 SE.	1 Mist... 4 Rain..
19	29	87	29	85	46	36	SE.SW.	1 Mist.. 2 Sun...
20	29	55	29	49	47	37	11 SW.SSE.SW...	13 Mist.. 2 Rain. 4 Mn.. & Sh..

The quantity of rain during the month of November was 1 inch, 58-100ths.

*Observations on Diseases at Richmond.*

The disorders under treatment were, Asthenia, Catarrhus, Colica, Cyananche tonsillaris, Delirium tremens, Diarrhoea, Dolor lateris, Dyspepsia, Febris catarrhalis, Febris simplex, Obstipatio, Ophthalmia, Rheumatismus, Rubeola, Urticaria, Vaccinia, and Varicella.

# THE METEOROLOGICAL JOURNAL,

*From the 20th of NOVEMBER to the 19th of DECEMBER, 1820,*

By Messrs. HARRIS and Co.

*Mathematical Instrument Makers, 50, High Holborn.*

D.	Moon.	Rain.	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.			
20	☉		45	48	36	30	05	30	09	61	60	S	SW	Fog	—	Clo.
21		,03	40	45	39	30	00	29	85	62	60	S	WSW	Fog	Rain	Clo.
22		,20	42	45	39	29	63	29	47	62	64	SW	SW	Fine	Rain	—
23		,19	43	47	35	29	50	29	59	63	62	S	WSW	Rain	—	Fine
24		,05	39	41	37	29	63	29	67	62	60	SE	ESE	Fog	—	Clo.
25		,06	41	43	35	29	65	29	62	62	62	SSE	S	Clo.	—	—
26		,03	40	43	38	29	77	29	95	61	62	SE	E	Fine	—	Clo.
27	☾		42	45	40	29	94	30	02	61	61	E	E	Clo.	Fine	—
28			43	47	40	30	15	30	22	60	60	E	ENE	Clo.	Fine	—
29			42	45	37	30	26	30	30	61	59	E	NE	Clo.	—	—
30		,02	41	45	35	30	26	30	20	60	60	N	NW	Fine	—	—
1			39	45	35	30	16	30	07	60	60	NW	W	Fog	Clo.	—
2			37	45	36	30	05	30	10	60	60	W	WNW	Fog	Fine	—
3			39	47	38	30	10	30	00	62	63	WSW	WNW	Rain	Fine	Clo.
4			40	47	39	30	00	30	01	65	65	W	WSW	Clo.	—	—
5	☾		43	49	39	29	97	29	91	63	61	W	WNW	Fine	—	—
6		,15	45	50	40	30	10	30	09	60	64	SE	E	Fog	Rain	—
7			48	56	40	30	05	30	11	63	63	W	W	Fog	Clo.	—
8			48	52	45	30	16	30	21	61	62	W	W	Fine	—	—
9			50	52	50	30	20	30	12	59	60	WSW	WSW	Clo.	Fine	—
10		,13	52	53	50	30	04	29	98	61	61	SW	WSW	Rain	—	Clo.
11			52	53	50	29	88	29	88	61	61	WSW	SW	Fine	—	Clo.
12	☉	,20	52	53	46	29	63	29	55	63	62	SW	SW	Rain	—	—
13		,52	50	44	30	29	56	29	73	62	60	NNE	NE	Rain	—	Fine
14		,18	32	35	30	29	88	29	95	56	57	NNE	ENE	Fine	—	Sleet
15			30	33	30	30	00	29	88	57	55	SE	SE	Clo.	—	Fine
16		,09	32	35	33	29	73	29	60	57	60	SE	SE	Clo.	—	Rain
17		,14	35	38	40	29	68	29	93	61	63	E	E	S&R	Rain	Clo.
18		,05	43	48	41	30	10	30	20	65	65	SE	S	Clo.	Rain	Fine
19	☉	,09	46	49	42	30	26	30	34	65	65	SSW	W	Rain	—	Clo.

The quantity of rain fallen in November is 1 inch and 40-100ths.

## A REGISTER OF DISEASES

Between NOVEMBER 20th and DECEMBER 19th, 1820.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio .....	6		Gastrodynia .....	6	
Abscessio .....	9	1	Gonorrhœa <i>pura</i> .....	9	
Acne .....	1		Hæmoptœ .....	8	
Amenorrhœa .....	5		Hæmorrhoids .....	7	
Anasarca .....	9		Hemiplegia .....	1	1
Anorexia .....	4		Hepatitis .....	8	2
Aphtha <i>lactentium</i> .....	2		Hernia .....	3	
Apoplexia .....	3	1	Herpes <i>Zoster</i> .....	3	
Ascites .....	8	4	Hydrocele .....	1	
Asthemia .....	5		Hydrocephalus .....	4	2
Asthma .....	47	6	Hydrothorax .....	5	3
Asphyxia .....	1		Hysteria .....	8	
Atrophia .....	4		Hysteritis .....	2	
Bronchitis <i>acuta</i> .....	3		Icterus .....	6	
<i>chronica</i> .....	13		Impetigo <i>figurata</i> .....	2	
Cancer .....	2	1	<i>erysipel.</i> .....	1	
Carbunculus .....	3	1	Ischias .....	3	
Cardialgia .....	2		Ischuria .....	3	
Catarrhus .....	63		Lateris <i>dolor</i> .....	3	
Cephalalgia .....	34		Lepra .....	4	
Chorea .....	1		Leucorrhœa .....	3	
Cholera .....	11	1	Mania .....	1	
Colica .....	1		Melancholia .....	1	
<i>Pictonum</i> .....	1		Menorrhagia .....	13	
Convulsio .....	1		Morbi Infantiles* .....	26	2
Cynanche <i>Tonsillaris</i> ..	17		<i>Biliosi*</i> .....	16	
<i>maligna</i> .....	1		Nephritis .....	2	
<i>Trachealis</i> ..	1	1	Obstipatio .....	5	
<i>Parotideu</i> .....	5		Odontalgia .....	19	
<i>Laryngea</i> .....	1		Ophthalmia .....	13	
Diarrhœa .....	17		Otalgia .....	3	
Dysenteria .....	6	1	Palpitatio .....	3	
Dyspepsia .....	20		Paralysis .....	6	1
Dyspnœa .....	3		Pericarditis .....	1	
Dysuria .....	2		Peripneumonia .....	12	1
Enteritis .....	6		Peritonitis .....	13	1
Entrodynia .....	3		Pernio .....	1	
Epilepsia .....	13	1	Pertussis .....	11	
Epistaxis .....	1		Phrenitis .....	1	1
Erysipelas .....	11	3	Phthisis Pulmonalis .....	26	8
Erythema <i>læve</i> .....	4		Pleuritis .....	17	1
Febris <i>Intermittent</i> .....	5		Pleurodyne .....	8	
<i>catarrhalis</i> .....	21		Pneumonia .....	10	2
<i>Synocha</i> .....	2		Podagra .....	5	
<i>Typhus mitior</i> ..	13	2	Polydipsia .....	1	
<i>Typhus grav.</i> .....	2	1	Porrigio <i>larvalis</i> .....	3	
<i>Synochus</i> .....	17		<i>favosa</i> .....	1	
<i>Puerpera</i> .....	4		Prolapsus .....	2	
<i>Remit. Infant.</i> ..	13	1	Prurigo <i>mitis</i> .....	3	
Fistula .....	2		Psoriasis <i>guttata</i> .....	1	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Psoriasis <i>inveterata</i> . . . .	2		Syncope . . . . .	1	
Purpura <i>simplex</i> . . . . .	1		Syphilis . . . . .	12	
Pyrosis . . . . .	2		Tabes Mesenterica . . . .	5	
Raucedo . . . . .	1		Tussis <i>chron.</i> . . . . .	5	
Rheuma <i>acutus</i> . . . . .	13		Vaccinia . . . . .	9	
—— <i>chronicus</i> . . . . .	29		Varicella . . . . .	3	
Roseola . . . . .	1		Variola . . . . .	15	7
Rubeola . . . . .	8		Vermes . . . . .	11	
Scabies . . . . .	60		Vertigo . . . . .	12	
Scarlatina <i>simplex</i> . . . . .	8		Urticaria <i>febrilis</i> . . . . .	2	
—— <i>anginosa</i> . . . . .	3				
Schirrhus . . . . .	1		Total of Cases . . . . .	940	
Scrofula . . . . .	5		Total of Deaths . . . . .		59
Stricture . . . . .	1				

• *Morbi Infantiles* is meant to comprise those Disorders principally arising from denudation or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Bilioi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

## Observations on Prevailing Diseases.

SEVEN fatal cases of variola! How distressing that this should be the case, in spite of the benefits proffered from vaccination! We should have been obliged by our several Reporters stating the particulars of these cases, and the treatment that was adopted.

Pulmonary and bronchial affections have been in considerable number, as will be seen by the list; and a particular affection of the head has been very prevalent, apparently connected with a congestive condition of the encephalic vessels, and a primary as well as consecutive derangement of the sensorial power. In the writer's own practice, he has found this affection to yield with most facility to a single blood-letting, by cupping-glasses to the neck, and the administration, subsequently, of a powder, composed of fifteen grains of valerian, and fifteen of cascarilla bark.

An apparently hopeless affection of the brain, supervening upon acute hydrocephalus, has been cured by a seton in the neck, combined with the internal administration of tincture of lytta, tincture of digitalis, and compound ipecacuanha powder.

## MONTHLY CATALOGUE OF BOOKS.

A new and improved Edition, handsomely printed, to bind up as a Pocket Book, of a Conspectus to the London, Edinburgh, and Dublin Pharmacopœias. By Anthony Todd Thomson, Fellow of the Royal College of Surgeons, &c. &c. ; Author of the London Dispensatory.

A Synopsis of the Diseases of the Eye, and their Treatment. By B. Travers, F.R.S., &c. &c. 8vo. Price 1l. 5s.

Burn's Principles of Midwifery. New Edition, carefully revised. 8vo. Price 15s.

A Dissertation on the Treatment of Morbid Local Affection of Nerves. By Joseph Swann; Member of the Royal College of Surgeons, London. 8vo. Price 10s.

An Inquiry into the Nature and Treatment of Gravel; Calculus, and other Diseases. By William Prout, M.D., &c. 8vo.

A Treatise on Diseases of the Liver and Digestive Organs, &c. By J. Thomas, M.D. 8vo.

The Pharmacopœia of the Royal College of Physicians of London, 1809; literally translated, and the Chemical Decompositions annexed. By G. F. Collier, Surgeon, Licentiate of Apothecaries' Hall, &c. &c. 8vo. Price 12s.

Practical Observations in Midwifery; with a Selection of Cases. Part I. By John Ramsbottom, M.D., Lecturer on Midwifery at the London Hospital, &c. &c. 8vo.

The Continuation of the Narrative of Miss Margaret M'Avoy's Case; with General Observations on the Case itself, upon her peculiar Powers of distinguishing Colours, Reading, &c., through the Medium of her Fingers; with additional Proofs of her Blindness. By Thomas Renwick, M.D. 8vo. Price 10s.

Views of the Muscles of the Human Body. Drawn from Nature, and engraved by George Lewis. Eighteen Plates, 4to.; with suitable Reference for the Student and Medical Practitioner.

Practical Observations on the Colchicum Autumnale, as a General Remedy of great Power in Cases of Inflammatory Diseases, &c. By Thomas Haden. 8vo. Price 4s.

A Supplement to the Pharmacopœias; including not only the Drugs and Compounds which are used by Professional and Private Practitioners of Medicine, but also those used by Chemists, Druggists, and Herbalists, for other Purposes, &c. &c. A new Edition, greatly enlarged and improved. By Samuel Gray, Lecturer on the Materia Medica, &c. &c.

## NOTICES TO CORRESPONDENTS.

*Communications have been received this month from Dr. Onslow, Mr. Richard Williams, Mr. Wansbrough, Mr. Davies, Mr. Wood, J. W. C., Dr. Smith, and Mr. Sibree.*

\*.\* *Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 52, Fleet Street.*

THE  
LONDON MEDICAL  
REPOSITORY.

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No. 86. FEBRUARY 1, 1821. Vol. XV.

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PART I.

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ORIGINAL COMMUNICATIONS.

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I.

[Communications from respectable writers (and who is more respectable than the writer of the following essay?) we generally present to the readers without any editorial animadversion. In the present instance, however, we cannot refrain from saying, that we differ in some essential points from Mr. MANSFORD. To do away with the system of apprenticeships would seem next to impossible, unless all parents were in circumstances to support their sons at universities; and even in that case the individuals thus educated would object to falling into the rank of general Practitioners. We fully, however, accord with our able correspondent as to the responsibility which a master incurs when receiving a youth into his house, under the implied compact at least of initiating his pupil into the actual principles of his Profession. —<sup>2</sup>EDIT.]

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*On Medical Apprenticeships.*

SINCE the passing of the Apothecaries' Act, in the year 1815, the long agitated question of medical reform has lain comparatively dormant. Within these few months, however, this important subject has again been partially touched upon; doubtless because, although much has been done, it is apparent that there is still much to complain of and much to amend. Defects in the original construction of the bill—the opposition it encountered both in and out of the house—and, finally, its execution being vested in a trading rather than an academical society—have all contributed to frustrate the salutary designs of those who originally projected it. It is not, however, my intent, in the present paper, to enter into the various evils attendant on the existing institutions of medicine; but to confine myself to one which the Apothecaries' Act has enforced and perpetuated, but out of which many others of serious magnitude will be found to grow—I allude to the present system of medical apprenticeships.

It would sound something like the commencement of a trite essay, to assert that the science of medicine is the most useful, the most noble, and the most vast in its objects and attainments of any other; and there are perhaps few who would choose to enter into a disputation on these points. But with this acknowledged pre-eminence on the part of medical science, the conduct of some of its professors, and the code of medical polity, at least as far as concerns the general Practitioner, are at sad variance.

In every other employment or profession, the novice is early trained to the dexterous use of those bodily or mental powers which are to be called forth in the exercise of his destined pursuit; and especially are those years during which the mind is the most inquisitive, the most ardent, the most receptive, and the most ductile, applied to the mastery of the express object in view, and in which only its faculties can be fully and permanently developed. These years are from fifteen or sixteen to twenty or twenty-one; and according to the manner in which they are spent, is future proficiency in any pursuit to be won or lost. The annals of biography might perhaps be challenged to produce a single instance of a man who has attained to high professional or literary eminence, in whom these qualities were not early shown or early cultivated.

To accomplish any object, the means must be consistent with the end. The man whose highest aim is the acquisition of a mechanical art, need only be busied with its frequent repetition, till dexterity becomes a habit; but for those who press towards a higher mark, the means to be pursued in its cultivation must be of a similar character, or they will surely fall short of that mark. If we should see the candidate for classical honour spending these years in idle repetitions of the *Accidence*—the lawyer occupied only in mending pens and scraping parchment—the future commander in the details of the drill serjeant—or the merchant in those of a copying clerk—how should we be disposed to augur of their respective figures in after life? And what shall we say, when we see a youth who is destined to the pursuit of a science, equal to either of these in the variety and difficulty of its attainments, doomed to spend these precious years in the very A, B, C, of his art? There are difficulties enough of an unavoidable nature in his way: that needless ones should be added, is an act of injustice to the youth who seeks instruction in the path he should go from those who have gone before him; and to the public, by destroying those talents which were given to be employed for their

benefit. The youth, at the period of his leaving school to commence his apprenticeship, is usually animated by those very feelings and desires, which, if rightly cultivated, would make him all that could be desired. It is the profession of his choice: and the ardour with which he sets out may be encouraged; and the enthusiasm and *esprit de corps*, which will be of such incalculable advantage to him through life, may be incited and fixed as a permanent and enlivening principle of action. He has been taught to conceive highly of his destiny; and it rests with his preceptors, during the critical period which is to follow, whether or not these conceptions shall be realized.

Such is commonly the situation of a young man when he takes his first station at the pestle and mortar; to which he can have no reasonable dislike, while it offers something to learn which he considers essential to his future pursuits. Neither need he suppose that there is any thing humiliating in his occupation because it could be performed equally as well by others of inferior pretensions: "It is honourable to learn that which it is proper to know." The details and arrangements of pharmacy may be sufficient to engage his attention for a few weeks or months: but when these have passed, and he still finds himself pinioned to the same place, and that there he must be content to remain, without advancing a single step, it is very natural that he should revolt at such a prospect; and finding this first step in the Profession so uninviting, perhaps he retires from it in disgust, and seeks other and more congenial pursuits: and thus, I am persuaded, has many a lofty genius been lost to the Profession. If he continue — wide, indeed, will be the difference between the termination and the commencement of these unhappy years; and he will enter upon the proper business of his Profession under greater disadvantages than if he had never been apprenticed at all. It is the property of little employments to create little minds; and what can be expected from five years spent in rolling pills and writing labels? These very years are the most precious in the life of every man, especially of him who is destined to the exercise of a learned profession. The mind at this age must either expand or contract. High pursuits will raise it to their proper level; and low and pitiful occupations, long followed, will as surely bring it down to an incapacity for any thing else. Nothing great can be expected to be accomplished by a man thus initiated into his profession.

The power and the right of the Apothecary to practise medicine having been lately distinctly recognised by the legislature, and a course of education laid down by which

this power and right are to be obtained, it would be well if every part of it were suitable to the end in view. When the Apothecary was, as his name implies, a mere mixer of medicines, this mode of apprenticeship was very well; and, indeed, comprised, as in other handicrafts, the whole of his education. But if he is to be, what in effect he is, the Physician to a large portion of the community, it would be to their advantage, as well as his own, that the whole of his education should be commensurate with this higher part of his vocation. But the case is lamentably otherwise; there is no affinity between his present occupation and his future destiny. This demands a continuation of literary pursuits, which have hitherto been his only ones. His daily occupation is a monotonous repetition of mechanical and uninteresting employments. He necessarily acquires a distaste for one of the two; and the other is as certainly given up. Either his own interests or those of his master must be sacrificed; and it appears to me, that the latter has, in such circumstances, no just cause of complaint. The friends of the apprentice, as well as the apprentice himself, are generally taught to believe that he has something important to learn—something worthy of a cultivated and aspiring mind, which requires diligence, and can fix the interest. What wonder, then, if he become dissatisfied, or revolt at the prospect of spending five long precious years in the exercise of an art, which, however important as an integral part of an elaborate profession, in its practised manipulations is little superior to that of a confectioner? Thus have many unhappy feuds arisen between masters and their apprentices, which finally lead to a separation before the contracted period, or to a life of mutual distrust and breach of duties. All that is required of practical pharmacy, or at least all that is ever learnt in the shop of the Apothecary, may be acquired as perfectly in three months as in five years. It is plain, then, that the spirit and intent of the contract are broken. All the advantage lies on the side of the master; who, under pretence of tuition, becomes possessed of the efficient services of his apprentice for almost the whole of the stipulated period, while the latter is defrauded of time and opportunities which he can never regain.

But the great evil of this system is, that not only is time simply lost, but the power of redeeming it is lost also. A mind long conversant with trifles will certainly be rendered incapable of using exertions of a higher order; and the young man, after spending the five years of his apprenticeship in the usual manner, will enter on the real studies of his profession, (as was before remarked,) under much greater disadvantages than if he had never been apprenticed at all.

Unused to mental application, he is impatient of the necessary restraint to attend to the multifarious duties which now crowd upon him; and, untaught to think and reason for himself, he acquires a habit of relying on systems, however false, and on rules, however inapplicable. Nor can he ever hope to escape from the dangerous and inglorious servitude of a routine and empirical practice.

The medical art is one of judgment, not of rules. Unless the judgment have been exercised and matured, rules are of very little use. This peculiarity belongs almost exclusively to medicine. The divine has the authority of Scripture for his guide, the lawyer the decisions and precedents of former times; what was yesterday true and binding, in doctrine, or in authority, is equally so to-day: but the Physician has no standard to direct him in the hour of doubt and of emergency. The founders and fathers of his art may assist, but cannot determine for him. Upon his own clearness of perception and soundness of judgment, must his reputation and the life of his patient stand or fall. The young Practitioner, who, with a name for every disease, thinks he has also an easy and infallible rule to guide him in its treatment, soon finds himself involved in perplexities, which no rule of art will assist him to unravel. He must judge for himself, or submit to be guided by the judgment of others. It is surely, then, desirable that this truth should be kept in view, and the whole system of education be regulated in strict conformity with it: but human ingenuity could scarcely have devised a more effectual method of cramping or of destroying the mental powers, than in the system of medical apprenticeships. The period of life which is thus miserably spent, and irretrievably lost, is that in which the future capacity as well as bent and powers of the mind are to be determined; and it is painful to think how the native ardour and the opening powers of an aspiring youth are bound down and immolated on the counter of the Apothecary.

Whatever ambition the man who has been thus educated may have to overtake his more fortunate rival, he will, from this defect in his early education, contend in a vain race; and how unwilling soever he may be to acknowledge him his superior in medical science, his superior he undoubtedly is and must be. How is it possible, that a mind which has never been tutored to pursue a single continuous train of thought, can stand on equal terms with the man whose mental powers are not only invigorated by use, but who, by early habit, can manage them as dexterously, and direct them as systematically to the end in view, as his bodily

members? Native genius will sometimes rise superior to every acquired advantage: but I need not, in order to remove any ill-founded expectations of such an occurrence, say how rare such instances are. The celebrated John Hunter may be mentioned as one instance of this kind: But, notwithstanding his vast powers, and the monuments he has left us, by which to judge of them, under this very disadvantage of which we are speaking did he labour all his life. Had his vigorous mind been early brought into action, and derived from culture the increase of powers which skill and system can add to original but unwieldy strength; his astonishing labours, which excite our wonder, might have been accomplished with much greater ease; and his doctrines and opinions, to which we refer for information, or admit as authority, have been rendered much more clear and intelligible.

These evils, great as they are, are prospective; and the pupil himself may not be sensible of their magnitude. But there are others, which involve him in more immediate and alarming peril, and which, although he may see, he will scarcely be able to shun. Transitions of all kinds are dangerous; and that one is of a fearful kind, which transplants a boy, of cultivated understanding and aspiring views, from the bustle of a public school to the solitary imprisonment of a dispensary; for it is not often that he has an associate. Here, with a very limited intercourse with the family into which he is received—in which, perhaps, there is no one with whom that intercourse can be free and social—and subject, from the very circumstances of his situation, to close confinement, with an occupation, if he have any at all, which excites no interest, and holds up no object—who can be so ignorant of human nature as not to foresee the consequences? What the effect of this seclusion, both on the spirits and morals of a young man during the most critical years of life, must be, it is dreadful to think! Denied alike the benefits of wholesome exercise and social intercourse, at the very time when the one is indispensable to form the constitution and the other the character, it is easy to see what must follow. An enervated body, and a mind sound and depressed, are the natural results to be looked for: but this is not the worst.—“Who,” says Dr. Beddoes, “that is capable of entering into the situation of young men of deep sensibility, shut out in a manner from society, and bereaved of the amusements of their age, can be at a loss in imagining what kinds of solace they may seek under the gloom of discouragement, and in a state of rejection by the world?” The life of Dr. Swift, to which

the above quotation refers, affords a memorable example of the effects of such a situation on such a mind. With this deep sensibility; with an ardent temperament, and with a high and independent spirit, had this extraordinary man to encounter, in early life, dependence, penury, desertion, and solitude. What wonder, then, if in such a soil, and so manured, the passions should take deep root, and grow to rank and lawless maturity? And it is not detracting from the fair fame of an illustrious character to suspect, that in the college life of Swift may be found the key to all his subsequent inconsistencies and extravagances, which shut him out from all pleasurable emotions, made him the hater of both man and *woman kind*, and plunged him at last into all the "madness of misanthropy."

Affiliated to the dangers arising from seclusion during the most critical years of youth, are others of a no less fatal tendency. Escaped from the Scylla of apprenticeship, the Charybdis of London dissipation awaits; and happy is he who is not hurried away resistless, and engulfed in its dreadful vortex! The young man who has had the advantage of being tutored to higher pursuits than those of sensual gratification, is in little comparative danger, and will generally escape with triumph. But it is not in nature to expect, that a youth who has hitherto been incarcerated in a state of tantalizing seclusion from the world, with no pursuits which could engage his mind and silence the voice of desire, should offer any effectual resistance to the allurements which now surround him. He is in the situation of a mariner, launched into a new and difficult sea, without a pilot and without a compass; himself unconscious of his danger, and dreaming of nothing but undiscovered regions and untried delights. Who can view a youth in such a situation without alarm? What parent would intrust his son in it, without the most unbounded confidence in his discretion? It is a sea of dangers, in which many a promising youth is annually shipwrecked.

On these accounts it is, chiefly, that Edinburgh claims a superiority over London as a school of physic. (I speak from experience of both.) Edinburgh, doubtless, abounds with temptations, and facilities of gratifying them, like other large cities: but there is much in the genius of a place; and the methodical and connected system of education pursued at this university leaves, unless to the idle indeed, but few opportunities of cultivating idle company or idle habits. Besides that, the spirit of emulation, and the ardour visible in all, are contagious; and the student has the double advantage of being in less danger and of learning more. Until the

desultory system of education pursued in the London schools be reformed—until, in fact, London be raised to the dignity of an university, and the students brought under some degree of academic and moral restraint, and be, at the same time, stimulated by the ambition of literary reward—these evils will continue to exist; and its superior opportunities of acquiring anatomical and surgical information be greatly counterbalanced by the risk incurred of moral debasement, and of habits of idleness, which alike unfit the student for taking advantage of these opportunities, and for pursuing his profession with credit to himself or advantage to his employers.

How little does the heedless student know of all this, or of his future situation and prospects! What fund has he to draw upon in cases of emergency, and what pledge has he to give for life and health reposed in his hands? A superficial examination, in a task got up for the occasion, is a very poor one. It is astonishing what fundamental ignorance sometimes lurks behind this show of parrot learning; and the man who has passed before his examiners with tolerable credit, shall be lost in a labyrinth of perplexity in his first essay at practice. And how should it be otherwise, when he has never been taught to think for himself? This hurried scheme of medical learning, like all other things learnt in a hurry, soon forsakes him; and he falls into the lowest sink of medical legerdemain—that of a temporizing and routine practice;—examines his patient as he examines his watch—perfectly ignorant of the mechanism and movements of both; and quite content if he understands a few characters in the exterior circle of things, to one of which some leading symptom, like an index, is pointing. But how fare the patients of such a man? and how fares it with his own peace of mind? Neither, surely, need be envied.

Any change in the present system of medical education has not been without its opponents. A more liberal education on the part of the general Practitioner has been objected to even in a British parliament, on the ground that if such an education were rendered compulsory, a sufficient number would not be found for the general wants of the country, especially in poor and thinly populated districts. But surely it must be a short-sighted policy, and a perfect ignorance both of medicine and its professors, which could dictate such an objection as this! Do those who are inclined to maintain such an one require to be told, that *no* treatment is better than a bad one—that the man who, under false pretensions, assumes to himself an office to which he is incompetent, may

become a scourge instead of a blessing to his neighbourhood; and that the victim of disease, of any kind, will have a much better chance if left to the salutary operations of unassisted nature, than in the hands of conceited and meddling ignorance? There is no science to which the trite adage of "a little learning is a dangerous thing" is so applicable as to medicine. Here, not to do right is certainly to do wrong, and seriously wrong; and how many chances there are in such a case against the poor patient, the well-informed Practitioner only knows. An error in medical judgment in acute disease is frequently decisive, and brings with it consequences of no common interest. If right, or property, or reputation, were at stake in the decision, the danger of error, as far as human enactments could avert it, had not probably by this time existed. But, although it involves with it such important, though one would think obsolete matters, as life and death, the evil in effect remains unredressed.

Dr. Young, in his Introduction to Medical Literature, has also objected to a superior or academical education for Apothecaries, because "they might, under such circumstances, form habits and connexions less calculated to make them pursue their appropriate employments with diligence, than if they adhered more closely to the established modes of education." But what appropriate employments can Dr. Young mean? And what reason will he assign, why nine-tenths of the population of this country, (and perhaps a larger proportion come under the medical care of the Apothecary exclusively,) should be denied the advantages which must result from the attendance of a well-educated Practitioner? If by an academic education he be unfitted for the office of Physician to so large a portion of the community, then is all which Dr. Young has said about sacrifices, and patience, and forbearance, and humanity, as indispensable qualifications for the Physician of any kind, ridiculous. I will venture to assert, upon principle and from experience, that the most scientific Apothecaries will be found to be those who are the most attentive to all their duties, and, consequently, the most useful members of society.

In depicting some of the evils arising out of the present mode of conducting medical apprenticeships, I have indulged in no flights of fancy, nor supposed a single case, of which examples have not come to my knowledge. Nor do I think there is a man of reflection in the Profession, nor one of observation out of it, who will not see and acknowledge the truth of the preceding remarks. Although, however, the situation which has been represented is too commonly that

of a medical apprentice, it is of course not to be understood that it is invariably so. There are those whom I could name, whose pupils, at the expiration of their term, have been better informed in the principles of general science, and in those of their profession, than most young men at their entry into practice. Such examples show that the abuse is not without its remedy; but it must not be sought in legislative enactments. It is not designed, nor is it perhaps possible, that the course of study which would form the fittest groundwork of a medical education should be made compulsory, or be even accurately defined. It rests, at least after the commencement of the term of apprenticeship, between the parent and the master; and to the solicitude of the one, and the honour of the other, must the whole matter be left. The law unfortunately requires this woeful sacrifice of time and talents; and from its evil consequences the pupil can only be rescued by proper regulations at the time of apprenticeship. It is the duty of every parent who is about to dispose of his son in this manner, if he have any regard for his future happiness and success, to enter into strict regulations with his intended master as to the disposition of his time; and no Practitioner should think of taking an apprentice, who is not prepared to surrender a large portion of the time which he may think due to himself, to the advantage and improvement of his pupil, who, in his turn, owes a reasonable service to his preceptor, without which, the business of the profession could not well go on. It does not often happen that the apprentice, at the period at which he is generally selected for his new profession, has made any great proficiency in classical attainments. These then will demand a share of his attention, and a certain portion of every day should be set apart for that purpose. French and drawing are useful acquisitions to a medical man, and, if hitherto neglected, may now be attained, and would form an amusement rather than a study; while the mind may be enlarged, and taught to think correctly, by the study of the higher branches of arithmetic, natural philosophy, logic, and ethics. There is nothing in all this but may be easily accomplished by a little method, and a right understanding between the parties concerned. The master himself may have it in his power to assist his pupil much, (and it is no mean employment,) in the prosecution of these studies; as well as to form his mind, and excite his inquiries, by directing him in a general course of useful reading, and by the sure, but imperceptible influence of example and conversation. It is not enough that a certain quantum of learning be acquired, which may be obtained by the aid of common application

and a good memory: the reasoning faculties and the judgment may remain all this while untutored and unexercised; and it will be as impossible to bring them into skilful and energetic action, after the proper years of pupillage have passed by, as to teach a ploughman to fence. It will have occurred to almost every one, to have observed the rapid and masterly view which one man shall take of a subject, over which another has been expending his plodding powers to no purpose. Is this the effect of accident, or natural superiority of intellect? In some cases it may; but in nine instances in ten it is solely the effect of difference of education.

It will perhaps be said, that I have undervalued the pharmaceutical art. I am ready to acknowledge, that no man can be competent to practise medicine without a proficiency in it; but I repeat, that so much of it as is to be obtained in the dispensary of the practising Apothecary, can as well be learnt in three months as in the five years so commonly devoted to it. But its most important parts are to be found in another, and a much higher department of medical science; the study of which, in its importance to the medical Practitioner, is second only to that of anatomy, and will as certainly expand the mind, as a long confinement to the monotonous and finical repetitions of practical pharmacy will be to contract it—I mean chemistry. Whenever the pupil is within reach of an attendance on a course of instruction in both of these branches, they should be perseveringly followed during the whole period of apprenticeship. The advantage of acquiring an early proficiency in these fundamental branches of medical knowledge is incalculable. They are more easily acquired, and more permanently fixed in the memory, and time is subsequently obtained for a more deliberate and less divided attention to further studies.

It should be a chief object with every medical preceptor, whether as master or professor, to give his pupil a taste for medical literature, and to ground him well in the *history* of his profession. "Whoever has neglected this branch of study," says Mr. John Bell, "has a narrow mind, and prefers the little opinions of his particular master to the accumulated wisdom of ages; he dwells with enthusiasm upon those theories which have taken first possession of his mind, and never is he able to emerge from the atmosphere of the particular school in which he was bred."

The great object in the earlier stage of medical education, is to excite the curiosity and to enlarge the understanding, to enable it to take a comprehensive and philosophical view of the parts and functions of the living body. Without this,

to use the words of the author just quoted, "practice is not experience, and grey hairs and length of years bespeak only stubbornness in prejudice, and ill-founded claims of deference and respect."

But how should the curiosity be excited, or the understanding be enlarged, by the occupations which are commonly the only ones of a medical apprentice? Those which have been alluded to will surely be allowed to be of a very opposite tendency. Nor are these always the worst. He is not unfrequently condemned "to make bricks without straw;" as, for instance, to grind mercurial ointment, or to pound and sift powders, without the proper apparatus for either. I lately found a young man, worthy a better destiny, and in whom I was much interested, employed in rubbing down the unguentum hydrargyri in a hand pestle and mortar, in which scientific employment he told me he had been engaged at intervals for three weeks; while the same thing, and in quantity a hundredfold, is performed by a Druggist with the requisite machinery in almost the same number of hours. But then this was that the young man might not be *idle*—a good and sufficient reason, if this were all that would be required of him. But how a conscientious Practitioner can receive into his house a young man of respectable connexions, of classical attainments, and destined to the practice of a liberal and difficult profession, which requires all the powers of his mind to be called forth, to employ him in such drudgery as this, I am at a loss to imagine. Still less am I able to conceive with what face he can demand a high consideration for the benefit of his instruction in such unmeaning and unnecessary labour.

While such abuses exist, narrow hearts and shallow heads, spite of Acts of Parliament, will still be found amongst the members of a liberal and learned profession; and the Apothecary *thus* trained, true to his title, instead of an enlightened Practitioner of medicine, will still come forth a mere trader in draughts and mixtures.

That which is thus held forth as an abuse, is not of course intended for general application. The Apothecary, or more fitly, the general Practitioner, (for whom a characteristic name has not yet been found,) is, unquestionably, the most efficient member of the medical community, and is the last which the public would be inclined to give up. From the respectable body to which he belongs many of the brightest ornaments of physic have arisen, and many such add a lustre to their name and profession at the present day. But these will commonly be found to have escaped

from some of the disadvantages which it has been the object of this paper to expose and to deprecate.

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## II.

*Obstetrical Researches.* By MAURICE ONSLOW, M.D.

No. 5.

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OF SMELLIE, to whom the science of midwifery is indebted for many great improvements, very little is known; and I should be glad if this mention of him were to lead to a more complete biography of so valuable a man. He was a native of Scotland, probably of Lanarkshire, to which he retired when he quitted the practice of his profession, in 1759. He was a married man, but it does not appear that he had any children. I have heard it said, that he was first a Surgeon, or Surgeon's mate, in the navy, but know not whether this was from authority or merely conjecture. Certain, however, it is, that he practised midwifery in the country from the year 1722 to 1739; he then migrated to London, where he practised from 1740 to 1759; so that he was engaged in the practice of midwifery altogether thirty-six years.

Smellie is said to have been a man of but slight literary acquirements: indeed he confesses that he submitted his various publications to the revision and correction of a friend, who is known to have been the celebrated Dr. Smollet, which implies a consciousness of some insufficiency. But that he was not an ignorant man is very certain. His attendance on M. Gregoire's lectures on midwifery at Paris indicates that he was not unacquainted with the French language; and whoever was so much educated as to understand lectures delivered in French, must be considered as no mean proficient in literature.

Very soon after his arrival in London, he began to give lectures on midwifery, and by his mechanical ingenuity he devised means of rendering the study of this art more easy and agreeable. M. Gregoire was in the habit of explaining labours upon a machine fabricated of basket-work and covered with painted cloth: through this machine, a real foetus, often in a state of putridity, was made to pass, in order to show the progress of the labour. Smellie, improving upon this, constructed machines upon the actual bones of the skeleton, covered with leather, and stuffed out so as to bear a much nearer resemblance to nature; and he covered the skeletons of foetuses in the same manner for the purpose of exhibiting parturition.

The lectures which he gave were numerous attended. More than nine hundred pupils were instructed in the first ten years, besides a great many females, who were fitted for midwives. His lectures, however, were very brief, the course consisting only of twelve in number; and if a comparison be made between the expense of attending these and the lectures on midwifery of the present day, the advantage, in a pecuniary point of view, will appear to have been greatly in his favour, as the following extracts from a prospectus of his course of lectures, published in 1750, will show. "Those who engage for one course, pay 3*l.* 3*s.* at the first lecture;—for two courses, 5*l.* 5*s.*—for two months, or four courses, 9*l.* 9*s.*—for three months, 12*l.* 12*s.*—for six months, 16*l.* 16*s.*—and for a year, 21*l.*

The students were likewise obliged to pay for practice among the patients. "Those gentlemen who pay only for a single course, pay half a guinea for each labour, and six shillings more to a common stock for the support of the poor women; but where they attend two courses, they then only pay five shillings each labour, attend four, and deliver the last natural case themselves. If four courses, they are admitted to all the labours in their turn, deliver twice, and pay four shillings: but those who engage for three months, they are in the last month sent in their turn to deliver in difficult and preternatural cases, and only pay three shillings; if six months, two shillings; and if a year, one shilling."

The inconvenience and indelicacy of having many students in constant attendance on the women in labour, was very great, and subjected Smellie and his pupils to much occasional abuse. Once they were called to a poor woman, in one of the narrow lanes in Broad Street, St. Giles's; the case was an arm presentation. Twenty-eight pupils were crowded together in the room; a great mob assembled in the lane; and the parish officers were sent for, "who at that time were glad of showing their authority." The woman, however, being delivered of a live child, the mob dispersed, without proceeding to further violence.

A perusal of Smellie's works will show much attachment to his profession, a great anxiety to improve it, and a liberal acknowledgment of obligation to those who assisted him by their advice or suggestions in any improvements. Besides Dr. Mead, Dr. Sandys, and others, whom he incidentally mentions, he says:—"In a word, I diligently attended to the course and operations of nature, which occurred in my practice, regulating and improving myself by that infallible standard; nor did I reject the hints of other writers and Practitioners, from whose suggestions I own I

have derived much useful instruction. In particular I was obliged to Dr. Gordon, of Glasgow, and Dr. Inglis, of Lanark, in Scotland. The first made me acquainted with the *blunt hook*; the other with the *noose*; and in London, Dr. Nisbet assisted me in improving the *forceps*, and Dr. Hunter in reforming the wrong practice of delivering the placenta. On the whole, I have given this short detail of my own conduct for the benefit of young Practitioners, who will see that, far from adhering to one original method, I took all opportunities of acquiring improvement, and cheerfully renounced those errors which I had imbibed in the beginning of life."

In another part, he gives a gratifying proof of his candid temper. After speaking of the various attempts he had made to improve the forceps, &c., he recommends other ingenious persons to persevere in their endeavours to improve these, and adopt other methods that may be safe and useful; cautioning all, however, to despise and avoid, what he appears to have held in complete detestation, "the character of a selfish secretmonger."

Smellie is said to have been coarse in his person, and awkward and unpleasing in his manners\*, "so that he never rose into any great estimation amongst persons of rank." What is meant by the expression coarseness of person, is not very evident. That he was large, and perhaps ungainly in his make, seems proved by an anecdote that is told of him. Being informed that Dr. Hunter was thought the more proper person to perform the operation of turning in utero, because his hand was small and delicate, Smellie laughed at the idea, alleging, that his own hand was not so large as the child's head; if, therefore, there was room for the child's head to pass out of the pelvis, there must certainly be room for his hand to pass in; and then, as the larger hand could reach farther into the uterus, and grasp more firmly the legs of the child, this would give him a decided superiority.

Dr. Smellie, "advanced in years," died, March 5, 1763, at Lanark, in Scotland. Whether any memory of him be still preserved there, whether any delineation of his features is to be found, or a stone marks the spot in which his remains are deposited, the present writer has never heard.

#### ERRATA IN No. 1.

- Page 178, line 25, for 1591, read 1594.
- 178, — 37, for *Guilleman*, read *Guillemeau*.
- 179, — 3, for *ditto*, read *ditto*.
- 179, last line of note, for *tomb*, read *womb*.

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\* Simmons's Life of Dr. William Hunter, page 14.

## III.

*On an Alteration in the Handle of the Forceps, &c.* By H. DAVIES, Member of the Royal College of Surgeons, Lecturer on Midwifery and on the Diseases of Women and Children, Surgeon in Ordinary, and Surgeon-Accoucheur to the Western Dispensary for Complaints of Women and Children, and General Lying-in Charity, &c. &c.

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I AM induced to give publicity to an alteration in the handle of the midwifery forceps, which I think, from its utility, deserves to be more generally known than it appears to be.

To simplify an instrument without diminishing its utility, may be considered as an improvement; and where, under certain circumstances, the efficiency of the instrument is by this means increased, it will, I presume, be considered a greater improvement.

The alteration to which I allude is the addition of a pin to one handle of the forceps, and a corresponding depression or groove in the other, by which the necessity for tying the handles with a napkin or tape will be done away with, and which, to say the least of it, is extremely troublesome.

I am well aware that some gentlemen do not confine the handles at all; but the generality, I believe, do: and something of this sort is thought necessary from the usual directions that are given respecting it.

This improvement was made by Mr. Clarke, and has been mentioned by him in his lectures for some years past.

The pin should be made of brass, or some firm metal, and be *at least* three quarters of an inch long, and placed on the inner side, and near the extremity of one of the handles. The groove on the inside of the opposite handle should be neatly adapted for the reception of the pin in its lateral direction, but should be larger in the longitudinal one; as when the forceps are applied, and the handles brought together, the surfaces not being completely parallel, the pin would not otherwise pass in the depression.

By the fitting well on the sides, no lateral motion will be allowed, and every advantage of firmness and steadiness will be obtained which the tape affords.

The advantages of the pin and groove over the tape or napkin are:—

1. That no additional apparatus is required to the forceps when applied, and the handles are grasped with more ease.

2. That, while resting at intervals from extracting where there are no pains, or in the intervals of the pains where they still occur, a full expansion of the child's head may thus be allowed; and the ill effects which might result from continued compression on it will be avoided.

3. Provided the compression on the blades should require more than their usual approximation, and consequently the approximation of the extremities of the handles, this will be allowed by the pin and groove, which will still retain their firmness; but which will be lost where the tape or napkin is used, unless it is re-adapted.

My recommendation of this improvement can add little weight to the authority of the original improver.

I have never myself used a tape or napkin since the addition of the pin, &c. was made; and I think the advantages of it will be experienced by all who may choose to adopt it.

I am led to make another remark on the forceps, which was very forcibly suggested to me by a recent case, and which I shall relate in part for the more ready illustration of my point.

A lady of robust habit fell in labour on Sunday, the 19th of November. On the Wednesday following it was deemed advisable to deliver her. As I was some distance from home, I requested the loan of a pair of forceps which had narrow polished blades, without any lateral curvature. The blades were passed with ease; but as it required a good deal of exertion to extract the head, which was particularly large, I became greatly alarmed for the safety of the perinæum, which, from the abrupt curvature of the blades, was stretched to a very considerable extent before the head approached it.

I am in a great measure indebted for the preservation of it to the kind assistance afforded me by Mr. Woolly, of Brompton, whose forceps I used, and who saw the disadvantages of the abruptness of the curvature, and also how much more simple and generally useful the pin and groove would have been to the tape which I made use of, from necessity, on this occasion.

What I would wish to inculcate is, that the curvature of the forceps, from the handles to the bow, should be very gradual, in order not to produce this sudden stretching of the perinæum.

As this case terminated in every way well to the mother and her child, without any particular occurrence, I shall not trespass upon the pages of the REPOSITORY by detailing more of it.

## IV.

*Remarkable Effect of Disease upon the Colour of one of the Eyes.* By ANDREW SMITH, M.D., of the Army Medical Staff, Albany Hospital.

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WHILE lately engaged in examining the eyes of the soldiers in this garrison, (army depôt, Isle of Wight,) an individual presented himself to my notice, with the iris of a different colour in each eye, being grey in the right, and light green in the left. Upon inquiring into the history of this unusual appearance, I was not a little surprised to find, that originally they had been of one colour, and that the left had only changed to a green within the last seventeen months, from the consequences, he thought, of a severe blow inflicted on that eye by the extremity of a rope, three months before, or about twenty months from the present period.

As I have not, in the course of my reading on diseases of the eye, met with any similar distinct and well authenticated fact\*, I shall be much obliged by the early insertion of the present communication in the REPOSITORY. My object in laying the case before the public is, in the *first* place, to record the circumstance; and, *secondly*, to draw the attention of such readers as may feel interested in physiology or morbid anatomy to the subject; and to solicit from them, through the same or some other medium more convenient, any information they may possess, and feel inclined to impart on this interesting point, whether acquired by their own personal experience or from the works of others. Previous, however, to detailing the case, it may be proper to remark, that in saying *I have not met with any similar fact*, I allude solely to the colour undergoing a change apparently from disease, and not to its being different in each eye, as I have myself seen the latter appearance in two or three different individuals, and find observations to the same effect in Buffon, Wardrop, Wallroth, and other authors.

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\* I say distinct and well authenticated fact, because I find in a very learned and interesting work on the ophthalmologia of the ancients, (Syntagma de Ophthalmologia Veterum, auctore Fredrico Guilielmo Wallroth,) a cursory allusion to such a change being sometimes the consequence of disease. He says, when treating of the colour of the iris: "Optimè enim prisca observârunt philosophi, vel maximè curiosi, τὸ μέλαν, in oculis valdè variare, aut ex vitio aut ex naturâ, quas varietates Aristoteles satis lepidè juxta leges suas exposuit et interpretatus est."

Daniel Sheehan, aged twenty, about twenty months ago, when on guard in Chatham Dock Yard, was going round with the relief, when he accidentally received a severe blow on the left eye, from the extremity of a rope, which was followed almost immediately by considerable inflammation of the eyeball, and severe deep-seated pain in the orbit. The former of these soon disappeared, but the latter continued for more than a week; yet he never reported himself sick, and consequently continued to do his regular duties. After the pain left him, the eye continued well for nearly three months, and performed its functions with regularity and correctness; but about the expiration of that period, the sight began to get a little confused, and he was frequently annoyed by appearances somewhat like small balls of fire, moving before or flying out of the eye; and shortly afterwards one of his comrades mentioned to him, that that eye was not of the same colour as the right; upon which he immediately looked into a mirror, and found the observation to be correct, as it had acquired a taint of green, but so faint as not to be readily observed. From that date he attentively marked the development of the new colour, which he states took place gradually, and that in the course of five months it was of as dense a green as it now is, and his vision equally much impaired.

At present the whole surface of the iris is of a light grass-green colour, more dense, however, towards the pupillary than the ciliary margin; but in no part does it exhibit any marked derangement of structure. Pupil of its natural size, and dilates and contracts regularly, according to the quantity of light admitted; its margin appears a little thickened and gently inclined backwards, not unlike what it frequently is in *iritis*, especially when that disease is mild and of considerable standing. Central opacity of the capsule of the lens almost as large as the pupil, which intercepts the passage of the rays of light to such a degree as nearly to deprive him of vision, being only able to tell day from night, or observe a large object when moved between him and a bright light, when the right eye is covered.

Never having, as before observed, met with any instance of such a change being the consequence of disease, I was at first inclined to think that the statement of this man must be erroneous; but upon inquiring into the subject more fully, and duly weighing all the circumstances more or less immediately connected with it, I am now fully satisfied of its being correct: *first*, because the peculiarity of the appearance, which was so striking at the time I saw him, must almost to a certainty have been observed, if it had existed from birth,

before the last seventeen months, particularly by his mother, or some other of his relations, and by them made known to him: *secondly*, because the individual himself states that he is certain that it could not have existed sooner than the period already stated, as he could not possibly have avoided observing it while looking into a mirror, which he was in the frequent habit of doing, particularly about two months previous to the accident, when he had a slight inflammation of that eye: indeed he is so confident, that he would not hesitate in making oath to that effect: *thirdly*, as his eyes are marked "grey" in his attestation, which description was taken when he enlisted, about three years ago, and to those who know what caution and accuracy are observed in taking the general appearances of a recruit, this will amount to nearly a convincing proof of the accuracy of the fact advanced; and, *lastly*, because disease is evidently existing in the immediate neighbourhood of that membrane, which, there is reason to believe, was occasioned at the same time and by the same cause as that to which the change of colour is attributed.

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## V.

*Case of Periodical Suppression of Urine caused by Tea, Tobacco, and Gin.* By HARRISON WILKINSON, Member of the Royal College of Surgeons, &c.

Mr. J. M., now fifty years of age, about four years since began to complain of an occasional suppression of urine, with paroxysms generally about midnight, complaining at the same time of dyspeptic symptoms. The state of his stomach and digestive organs was minutely attended to; the ordinary medicines for such circumstances were prescribed both by myself and several eminent Physicians, accompanied by dubious advantages: copious draughts of hot water every morning, and daily long journeys on horseback, appeared to be of most service.

The introduction of a bougie was recommended, but the state of the passage at first prevented the entrance of one of the smallest diameter. Under such well grounded ideas, the constant use of that instrument was decided upon. After uniform perseverance for some months, several larger sizes could be introduced. I frequently gave my opinion, in opposition to others, that the strictures were spasmodic. Although it was admitted that such might be the case, yet the mechanical agency was most likely to alleviate the morbid action of the urethra. From repeatedly ascertaining that the strictures were in different situations, and the diameter of

the urethra of almost weekly variation; it occurred that the case was principally influenced by the state of the constitution. It is necessary to observe in this place, that the difficulty and frequently positive retention of urine occurred about the same hour every night. After various success for near two years, and although a bougie of moderate diameter could be passed, yet the same difficulty was experienced, and absolute suppression sometimes took place. On such occasions, a bougie being introduced into the bladder, or, as that was impracticable now and then, the instrument being insinuated half way up the passage, on its being withdrawn, the water would immediately follow in very considerable quantities, (although the suppression had never been of above two or three hours' duration), and quite limpid.

About two years ago suppression regularly occurred every night about twelve o'clock, accompanied by very excruciating pain. The bougie always afforded the desired relief; but it was sometimes necessary to use it a second time. Various diuretics and antispasmodics were exhibited without producing any beneficial effects. As experience decided that medical and surgical agency were inadequate, so I most scrupulously investigated the probable effect of diet. From various reasons, superfluous to mention, I formed the opinion that drinking tea might be a cause of the retention. As my patient uniformly experienced the soothing and exhilarating effects of that beverage, he consented to its omission for one single night with great reluctance. He escaped his ordinary midnight attack, yet was still unconvinced of the deleterious effect of tea upon his urinary organs. In the following evening he drank tea as usual, and at midnight had his ordinary paroxysm. Next night he was prevailed upon to omit his tea, and a second time he escaped. Such striking experiments could not fail to remove his scepticism; and he remained entirely free for near six months. The fondest attachment to a beverage, most deleterious in its consequences in his case, seduced him from his resolution, and about five hours afterwards a suppression of urine ensued; and for the removal of which, he was compelled, after suffering two hours' torture, to introduce a bougie, and a second during the same night. I laid it down to him as an invariable rule never to use a bougie until the last extremity. From that time he was free from any attack for about five months, when the attack returned nearly every night. For nearly three months he was compelled to use every night a bougie about twelve o'clock, and sometimes even a second. Anodynes and antispasmodics were of no service. Still complained much of dyspepsia, and occasionally of

wandering rheumatic pains. Diuretics, except the tincture of colchicum, were, as usual, unavailing; while the latter, which was only for two or three nights, and is allowed to be an exception to the above, acted upon the bowels as a hypercathartic. He succeeded, without a bougie, in emptying the bladder.

At that time he every evening had broma or cocoa instead of tea, and afterwards drank gin and water and smoked tobacco. The failure of the ordinary plan of treatment induced me to consider if no other source could be discovered that acted as an exciting cause. Embarrassed by nightly paroxysms, and disappointed in former expectations, I was induced to recommend that the gin and tobacco should for one night be left off. I overcame the prejudice of my patient with some difficulty. He was of opinion that my plan could not relieve him; but, out of deference to my opinion, he consented to accede to my proposition, and the first night he escaped his regular attack. Doubts about the efficiency of my plan, and predilection for gin and beer, induced him to return to his previous habit; and he was again attacked, sometimes in an hour after the gin and tobacco, but more commonly about three. The third night, he had neither gin nor tobacco until after the ordinary time of attack, and the paroxysms came on three hours later, and a bougie was used. This produced conviction upon his mind, and a resolution has been entered into not to return again to the exciting cause. He is a person of sober habits, and was induced to take gin and tobacco, under an idea that his digestive organs were relieved. He never drank any gin or used any tobacco during the day. He has been entirely free from his attack for a long time.

## VI.

*An Instance of Paralysis of the Lower Extremities cured chiefly by Electricity.* By RICHARD WILLIAMS, Surgeon at Aberystwyth, Licentiate of the Society of Apothecaries, and Author of an Analysis of the Medicinal Waters of Llandidod.

*History of the Case.*—MARY MORGAN, when about eleven years of age, caught a severe cold, in consequence of falling asleep upon the ground, which was attended with considerable fever and delirium.

She was visited by an empiric in this neighbourhood, who bled her in each foot, and administered some medicines. Shortly afterwards she entirely lost the use of her limbs, and con-

tinued unable to move even her toes for upwards of eight years.

In the month of May last I was requested to see her, and found that her general health was not much impaired by her long confinement. She complained of great coldness in her lower extremities, which were somewhat emaciated. Her feet and ancles had become œdematous, and the sensation of feeling was very much diminished.

I could not discover any irregularity in the spine, although I suspected the cause of her complaint to exist in that part.

*Treatment.*—Upon the 1st of June, 1820, she was electrified for the first time, and sparks were passed through her legs for a quarter of an hour. Two setons were made in her loins, one upon each side of the spine. She was directed to go into a hot bath, temperature ninety-eight degrees Fahrenheit, at bedtime, three times a week, to wear long flannel drawers, and to rub her limbs night and morning with an embrocation, composed of

Ol. Oliv. opt. ʒvj.

Liq. Ammon. ʒij.

Spt. Terebinth. ʒss. M. ft. embrocatio.

When the electric spark had been continued daily for a week, the shock was substituted for it; and she was electrified regularly every day for ten weeks, with the exception of five days, from a coated jar capable of holding one pint. During this period she gradually got better; and the electricity was again repeated almost every day till the second week in September, and occasionally till the middle of November, when I did not think it necessary to employ it any longer.

On the 9th of September I had ordered her to bathe in the open sea, and she did so three times, feeling a glow upon her skin when she came out of the water; but as the weather became cold and tempestuous, I desired her to return to the use of the hot bath.

The setons were kept open for three months, and then converted into issues, which have not yet been healed up.

*Remarks.*—The effect of the electric fluid was to produce a sensation of warmth and increased action of the pulse; and as she regained the use of her limbs, the shock was more severely felt.

At the expiration of a fortnight she was able to move her feet, and in three weeks to raise them from the ground; in six weeks she could turn herself upon a chair; in about two months she could support herself in the erect posture; and in fourteen weeks she could stand alone upon the insulated

stool, and bear to have shocks passed through different parts of her body in that situation.

For the first month the electric shock was confined to the hips, legs, and thighs, and applied in the course of the nerves. It was afterwards drawn through the spine in various directions, as well as through the nates, knees, and ankles, with manifest advantage. Her knees remained weak for a long time; and it was not until they had been frequently electrified that she was able to sustain her own weight, so as to walk about without any manner of assistance whatever: and I have now the satisfaction to add, that she is in every respect perfectly recovered.

## VII.

*Researches on a Disease, hitherto little known, which has received the Name of Softening of the Brain.* By L. ROSTAN, M.D.

[Communicated by SHIRLEY PALMER, M.D.]

### CHAPTER SECOND\*.—*Description of the Disease in its simple but irregular State.*

BUT the affection upon which I am treating does not always proceed with this regularity. Even in its state of simplicity—that is, when its progress is unfettered by a concomitant disease—it presents singular anomalies, with which it is very essential to be acquainted. These anomalies throw much uncertainty on the diagnosis of the disease, and may even render it utterly impracticable—not from any defect of observation, but from the nature of the symptoms which the patient presents. Although there exist a number of latent and very obscure diseases, it does not follow that they have been ill observed. The very knowledge of such exceptions constitutes, on the contrary, a proof of more advanced observation. And why should that which occurs in gastritis and the other phlegmasiæ, not occur in cerebral softening? The disease may then exist in a latent form. There are some cases which present no symptom of it; others where the symptoms are utterly contrary to the regular disease; and others, again, where their number is insufficient to characterize it. Under some circumstances, the precursory symptoms are wholly wanting: such are the two cases which I am about to record. Yet I think these instances much more rare than persons little acquainted with cerebral softening may suppose. Such persons scarcely think of inquiring into the history of a case. Struck with

\* Continued from last Number, page 41.

the apoplectic state, they do not closely interrogate the patient, while yet capable of replying, on his previous condition. After admission into an hospital, the information which may be obtained from relatives is commonly excluded. It also frequently happens that the patient, although apparently retaining unimpaired intellect, has lost all recollection of his previous state; and it is only from the report of attendants that valuable information can be acquired. These and other causes, which I may not have observed, sufficiently explain the absence of the precursory phenomena in some instances. They, however, may not exist, as will be seen in the following cases.

**EIGHTH CASE.**—*Cerebral Softening without Precursory Phenomena.*—A woman, aged forty-one, remarkable for her great strength and activity, had been for some years blind, but had never suffered any paralytic seizure. On July 30, 1820, without any premonitory symptom, she suddenly fell down, deprived of sense and motion, and was carried to the infirmary.

—*Symptoms.* Reclination on the back; head fixed for a moment, then turned to the right or left; arms raised in all directions with a sort of agitation; left hand incessantly fixed on the forehead; the right very moveable, never passing the level of the skin. On being touched or pinched, she raised herself with an expression of anger; and when questioned, seemed to listen, and remained motionless, as in ecstasy, without attempting to articulate any reply. It was impossible to discern whether the queries were comprehended. The skin was warm; pulse strong and very frequent; respiration, action of the heart, and sound of the thorax, natural; jaws constricted, but still separable; tongue red and dry; evacuations natural. Blister to the nucha, fifteen leeches to the anus, purgative injections prescribed; but their administration prevented by the violent agitation of the patient.

31st. — More calm; complete imbecility. Remedies of yesterday applied, with the addition of cream of tartar.

August 1st. — The mouth completely drawn to the left; motions of the right arm and leg considerably diminished. On pinching the paralysed arm, pain was, after a time, felt. Patient tried to articulate some phrases, and directed the left arm to the forehead.

2d. — All these symptoms more decided; deglutition impracticable.

3d. — Left side utterly motionless.

4th. — Tongue parched; prostration; eyes wide open, fixed; features shrunk; mouth closed; respiration hurried;

snoring; hand directed to the forehead; carphologia at rare intervals. Died during the night.

*Dissection.*—Exterior natural. Parietes of the heart thickened; its cavities, particularly the left, dilated; stomach and duodenum uninflamed, latter containing much unhealthy bile; iliac portion of the small intestine corresponding to the uterus inflamed to the extent of a foot, nearly disorganized, and filled with a deep red mucus; liver gorged with livid blood, and apparently softened. The dura mater was thin and transparent; other membranes loaded. The brain on being sliced showed here and there rose-coloured or yellowish circles; both anterior lobes anteriorly softened and adherent. All the neighbouring part of the right hemisphere exhibited the same alteration, especially near its lower point, where the organ was pulpy, and, as it were, purulent. Corresponding corpus striatum softened, and between it and the optic thalamus a yellow spot, indicating by its radiated appearance the existence of a cicatrix. Little serum in the ventricles. Optic nerves and other portion of the encephalon natural.

**NINTH CASE.**—A woman, aged sixty-nine, was admitted into the infirmary, May 21, 1820, for a slight catarrhal affection. On the morning of June 12 she became suddenly senseless; and presented, half an hour afterwards, complete loss of consciousness, motion, and sensibility, particularly of the left side; pale countenance; slight contortion of the mouth to the right; contracted pupils; frequent and difficult respiration; pulse hard, frequent, regular. Twelve leeches to the neck; purgative injections. Symptoms for ten days unaltered.

13th.—Leeches re-applied; purgative injections. Following days, blisters to the nucha; sinapisms to the feet.

23d.—Pulse less frequent and strong; respiration again natural; paralysis of the left side complete; general insensibility of the skin, particularly on the left side. Tongue inclined to the right; pupils contracted. Intellectual faculties daily recovering. The patient recognised her attendants, and seemed to comprehend the questions put to her. She even answered two or three words, but the rest was unintelligible. She voided *fæces*, when placed on the pan. Integuments of the coccyx slightly excoriated.

27th.—Tongue dry and blackish; bowels costive. Cinchona and rhubarb.

July 8th.—Tongue very black and dry; left pupil dilated. Diarrhœa for five or six days; afterwards progressive weakness, and increasing difficulty of articulation. Mouth

and tongue sooty; diarrhœa continuing; pulse small; respiration natural. Death on the 18th.

*Dissection*, on the 20th.—General emaciation; skin yellow and earthy; left pupil dilated: interior of the mouth covered with a sooty layer. The membranes of the brain were very pale, and the organ presented a softening of the whole middle lobe of the right hemisphere. It seemed to consist of a pulp, which grew softer as it approached the centre; so that it might have been regarded as a pulpy effusion, if the parietes had been more solid. This softening was limited internally by the unaltered paries of the right ventricle; externally, it extended to the cortical substance. The ventricles contained very little serum; that of the right was turbid and slightly flocculent. The rest of the brain, although soft, was healthy. Right lung adherent; in its middle lobe an encysted tubercle, of the volume of a small nut; its superior part and posterior border presenting a peculiar alteration. Left lung, posteriorly gorged, contained some tubercles towards its root. Heart very small, pale, and lacerable. Liver yellow and flaccid. Gall-bladder much distended with bile. Other organs sound.

The affection which caused the death of this patient was not announced by precursory symptoms. When she had somewhat recovered consciousness, and was questioned respecting the seat of her pain, she directed her hand to the right side of the head; but, although seemingly comprehending the interrogatory as to any sense of pain in her limbs, repeatedly answered in the negative. These two cases, although destitute of precursory phenomena, and exhibiting some irregularities, still show a few signs capable of distinguishing the disease. Their progress particularly appears striking.

The succeeding history is remarkable, from the difficulty at first experienced in fixing the seat of the disease. The patient felt no particular pain. Her altered countenance alone indicated a formidable malady: and it was only on the commencement of impeded motion that the species of lesion could be accurately distinguished.

**TENTH CASE.**—A widow, aged eighty-seven, of small stature and sanguineous temperament, was admitted into the infirmary June 3. She complained of general suffering, without particular pain. The most rigid examination threw no light on the diagnosis of this insidious, but obviously formidable affection. The face was flushed. Patient reclining on the back, and greatly agitated: limbs, especially the superior, in constant motion. Respiration short and sonorous; each expiration accompanied by a sigh: tempe-

ture of the expired air much elevated: thorax sounding well, except at its inferior and posterior parts. Pulse frequent, rather full; mouth dry and pasty; appetite gone; urgent thirst; skin warm and dry; eyes weeping; intellect unclouded. No abdominal pains; no fecal evacuations. Farther information precluded by the patient's deafness. Symptoms unchanged for three days, during which injections, simulant pediluvia, and sinapisms, were employed. Patient complained of nothing particular, except a lumbar pain, doubtless consequent on accumulation of fæces in the colon.

8th. Hæmoptysis; left arm numbed; cheeks constantly flushed. Same treatment; blister to one thigh.

9th. Prostration; left arm, still numbed; pulse slow; cessation of complaint; commonly drowsiness, but complaint renewed on being roused. Tongue dry and covered with a blackish fur. Respiration performed as though the patient was blowing on a heated body. On the following days, symptoms aggravated; prostration extreme; habitual drowsiness, with occasional agitation. Tongue dry, with thick black fur; thirst urgent; left arm gradually more numbed, and apparently very painful when touched; eyes tearful, and eye-lids adherent; cheeks more than ever flushed: symptoms progressively increasing. Death on the 16th.

*Dissection.*—Much subcutaneous fat. Muscles red, and easily lacerable. Figure deformed.—*Thorax.* Right lung a little injected at its base; left *splenitized* and horn-like. Heart indurated; its cavities contracted and parietes thickened.—*Abdomen.* Stomach and small intestines partially red. Gall-bladder distended with blackish green bile.—*Cranium.* Dura mater almost universally and intimately adherent to the bones. A largish spot of blood between the pia mater and brain, and colouring both. Cortical substance, in several points, yellowish; the medullary natural. An ounce of serum in the ventricles. In the centre of the right hemisphere, nearly opposite the spot above mentioned, an old extravasation of the volume of an almond, and the surrounding parts softened and yellowish\*.

The next case appears to me highly interesting, in consequence of the symptoms exhibited by the subject of it. In opposition to the preceding cases, this patient showed the commemorative signs without any positive symptom of para-

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\* This history might perhaps have been referred to the chapter on the complications of the disease; but the progress of the affection, at first obscure, and subsequently showing itself by the development of phenomena, although the preceding circumstances were unknown, induced me to place it here.

lysis. She even experienced general convulsions. The phenomena are perfectly in relation with the seat of the softening in the centre of the brain. I shall revert to this circumstance in the article on diagnosis.

**ELEVENTH CASE.**—A stout, healthy, corpulent woman, aged seventy-two, of elevated figure and lively character, employed as cook till her sixtieth year, was admitted into the infirmary July 9th, 1817. A fortnight previously, she had experienced pains about the heart, and frequent faintings: thirst urgent; appetite gone; head very painful; mouth pasty; urine free; constipation: had kept her bed three days. Evening of the 9th, symptoms of gastric disorder.

10th.—Copious vomiting of green bile; a lumbricus voided by stool.

11th, at evening.—Reclination on the back; physiognomy much altered and dejected; eyes fixed on the top of the bed; vision occasionally disordered; tinnitus aurium, of old date; sense of smell obtuse. Mouth and pituitary membrane dry; taste impaired; deglutition difficult; respiration tight, and almost constantly moaning. No cough, expectoration, or abdominal pain, even on pressure. Pulse full, indolent, strong, and intermitting every third pulsation. Drowsiness; occasional complaints; motion very difficult; intellect slightly disordered. Chamouille, antispasmodics, emollient injections, prescribed.

12th.—Decubitus on the back; face flushed; eyes haggard; senses more deranged; agitation extreme; deglutition more difficult, and executed with noise. Respiration constantly tight and moaning: abdominal pressure painful. Pulse unchanged. General debility increased; arms hanging on the sides of the bed; power of motion gone. Delirium continuing; loins constantly painful. Cataplasms to the abdomen; sinapisms to the feet. Usual injection returned without effect. Sinapisms in the evening had produced no rubefaction.

13th.—Abdominal soreness and dyspnœa increased. Blister to the left leg.

14th.—Prostration augmented; tongue blackish at the base; urine involuntary.

15th.—Night very restless. Seven, A.M., tongue black at the root, with a thick, ropy, yellowish fur on the borders; deglutition very difficult; respiration tight, but less plaintive. Some thick expectoration, slightly streaked. Abdomen less sore. The senses, particularly that of vision, improved. Pulse still intermitting every third stroke. Camphor added to the prescription.

15th, evening.—Symptoms less severe.

16th.—Night agitated: reclination on the back nearly horizontal; mouth half open; tongue very dry, and brownish. Increased dysphagia: thorax and abdomen very painful on pressure; respiration tight; general convulsions at intervals. Pulse intermittent and irregular; subsultus tendinum; haggard eyes; tranquil delirium: injections have not operated. Castor and antispasmodics.

17th, evening.—Decubitus horizontal; mouth open, and, like the tongue, dry; stupor of the eyes. General convulsions in swallowing, and subsultus of the limbs; pulse intermittent, feeble; great agitation; speech and consciousness gone; urine involuntarily discharged for the last six days.

18th.—Night restless; delirium. Face violet-coloured: great depression; pulse slow, feeble, irregularly intermittent. Mouth open, drawn to the right. Death.

*Dissection*, on the 19th.—Little emaciation.—*Head*. Dura mater pale red internally in nearly the whole superior half; but the loaded capillaries not distinguishable. Exterior arachnoid rose-coloured, and spread over with largish vessels; much reddish serum between it and the pia mater; ventricles containing much of the same fluid, thick and turbid; septum lucidum destroyed, with the exception of a few fringes; and all the parietes of the cavities remarkably softened; the arachnoid, where it invests the posterior part of the right ventricle, showing evident traces of inflammation. The plexus choroides red and tumefied.—*Thorax*. Right lung slightly gorged at its posterior inferior part; corresponding pleura inflamed. Ventricles of the heart dilated; parietes of the left thickened; and aortic orifice contracted by indurated valves.—*Abdomen*. Gastric mucous membrane in the state which it commonly presents in aneurism of the heart. The whole intestinal canal inflamed, particularly the duodenum.

**TWELFTH CASE.**—A widow, aged sixty-eight, of sanguineo-lymphatic temperament, and fifteen months insane, came into the infirmary March 6th, 1820. On the preceding day she had become insensible, and now presented supine reclination; perfect loss of consciousness and of the senses; paralysis of the right side; respiration deep and frequent; slight dry cough; strong, full, and frequent pulse; flushed face; hot and dry skin; involuntary discharge of fæces and urine; mouth scarcely distorted. Tongue could not be seen. Twenty leeches to the neck; sinapisms; diluents.

7th.—Flushing of the face and tension of pulse diminished. Three following days, pulse irregular, at times intermittent. Death on the morning of the 11th.

**Dissection**, on the 13th.—Superficial veins of the brain much loaded. At the anterior part of the right hemisphere, an ecchymosis, extending to the next convolution, and occupying only its surface, which was much softened. Several similar ecchymoses posteriorly on the same side. Density and colour of the substance of the brain unaltered. A little serum in the ventricles, particularly the right, and the right corpus striatum softened. Lungs adherent: heart large; hypersarcosis, with contraction of the left cavities. Ossifications at the aortic orifice.

The closest analogy exists between the progress of this disease and apoplexy; it would be difficult to distinguish them in the living subject. But the morbid alterations found after death are also very different from those commonly observed, and may belong as much to cerebral hæmorrhage as to softening.

The last case was noted at a time when the disease was yet unknown. One may perceive how incorrectly the symptoms are described. It is by no means demonstrated that this woman had not exhibited precursory signs. I insert the case here to show how important is a knowledge of the affection to an accurate description of its symptoms. Most of these reflections are applicable to the fourteenth case.

**THIRTEENTH CASE.**—A woman, aged sixty-three, insane, and paralytic in the right leg, was, on the 30th of March, 1817, stricken with sudden apoplexy, followed by incomplete loss of the external senses, sensibility and motion. Derivatives and emetics were employed with evident mitigation of these symptoms next day; but the yellow and altered aspect of the countenance, headach, dry and brown tongue, frequent pulse, and dyspnœa, continued increasing till the 12th of April, when the following state was observed:—countenance changed; cheeks and chin flushed; blackish ecchymosis of the left eye and surrounding integuments; constant delirium; sleeplessness, and efforts to get out of bed, which necessitated restraint. Tongue, teeth, and lips, dry and black; respiration frequent, inspiration deep; expiration quick, sonorous; pulse soft and frequent; stools natural.

13th.—Same.

18th.—Countenance decomposed; insensibility; general immobility; respiration very frequent, rattling, and performed with the action of smoking a pipe\*; pulse gone.

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\* "*La malade fume la pipe.*" The action thus expressed in French I have repeatedly witnessed in comatose affections; and my experience has taught me to regard it as an unfavourable, if not constantly fatal symptom.—P.

Considerable slough on the integuments of the sacrum. Death impending; occurred on the 19th.

*Dissection.*—*Exterior.* Ecchymosis on the right eye. Ephelides on the right shoulder.—*Head.* Arachnoid corresponding to the dura mater in some points internally very red, as if with extravasated blood; in others yellow red: a thickish adventitious membrane investing all this surface. Cerebral arachnoid sound. Brain soft and small. Ventricles containing serum; and their anterior extremities obliterated by adhesions inseparable without injury to the soft and pulpy cerebral structure. Particular softening of the corpora striata and optic thalami, extending as far as the tuber annulare. The medullary substance, in some points, brown and blackish, and much softened. Cerebellum slightly sharing this disorganization. Calamus scriptorius superiorly obliterated. Medulla oblongata sound.—*Thorax.* Lungs inflamed, hepatized; a little effused fluid.—*Abdomen.* Some parts of the small intestine slightly inflamed.

FOURTEENTH CASE.—A woman, aged eighty-four, and generally healthy, went to bed quite well on the 29th of October, 1817, after having supped as usual. Next morning she was found with complete hemiplegia of the right side, and paralyzed tongue. From the hard pulse, stertorous respiration, habitual drowsiness, and apparent annihilation of the intellectual faculties, cerebral effusion was suspected. After some days the state of the patient seemed to improve; but ardent fever soon came on; all the symptoms were aggravated; and death occurred November 21st.

*Dissection.*—Brain soft, and ventricles filled with serum. In the inferior part of the posterior right lobe, decided softening, and a kind of cavity, with yellowish parietes, such as distinguish extravasation of some date. This case is incomplete, and probably inaccurately recorded.

These are, doubtless, a small number of the anomalies which cerebral softening may exhibit. It is incumbent on me to describe such only as I have observed. Other varieties may present themselves to those who prosecute similar researches. It is impossible to outstrip experience, which can alone multiply such examples. With regard to diagnosis, it is satisfactory to know, that most of the irregularities just cited find their explanation in the seat or nature of the morbid change; and that, instead of destroying, they serve but to confirm the rules laid down. I am even convinced that we may, by rigid attention, explain the varieties of symptoms which diseases in general present by the varieties of alterations of organs; that nature never errs; that the imperfection of our senses and means of investigation alone

prevents us from ascertaining the cause of these anomalies ; and that our indolence finds it more convenient to admit a pathological irregularity, than to search for a satisfactory explanation of its supposed existence.

The anomalies of the preceding cases consist in their symptoms not having been those of regular softening, the morbid change being, at the same time, strongly marked. The succeeding case, on the contrary, exhibits all the (external) signs of softening, and yet the alteration was scarcely perceptible, and its existence may even be doubted.

**FIFTEENTH CASE.**—A woman, aged seventy-eight, small, thin, feeble, long afflicted, and confined four months to bed, had never experienced an apoplectic seizure, although her limbs were very weak, painful, and incapable of supporting her.

September 1st, 1820.—Head very painful; motions of the left arm impaired; not raised to the forehead without much effort and trembling; weight and numbness of the corresponding thigh much greater than in the arm; tongue mobile; speech slow and impeded; pupils contractile; intellect clear; mind clouded by apprehension. Physiognomy bad; digestive functions languid; pulse feeble and slow.

2d.—Motions of the arm tolerably free; numbness and pain of the thigh very great, but nothing apparent externally; rapid emaciation.

10th.—No change in the arm or thigh; mind clear; weakness extreme. Right leg very painful. Patient died next day.

*Dissection.*—Cerebral membranes pale; whole mass of the brain soft, but by no means so decidedly as to resemble jelly. Some points of the organ more affected than others. Cerebellum deficient in firmness. Right lung gorged; commencing hepatization of the summit of the superior lobe. Several fungi on the gastric mucous membrane, which was whitish and lax. A yellow tenacious substance on several points of the small intestines; violet-coloured injections of their internal surface.

### CHAPTER THIRD.—*Complications of the Disease.*

After having examined the disease in its simple and regular and simple and irregular states, I shall present it in its state of complication. The diseases which I have most frequently seen to co-exist with cerebral softening, are: sanguineous apoplexy, doubtless the most common complication; meningeal inflammation, more rare\*; and cancer and exostosis of the brain. I have no doubt that tubercles, acephalocysts,

\* As is seen in the thirteenth case.

and other organic lesions, are likewise complicated with this affection; but such cases have never fallen under my observation. The various phlegmasiæ of the other organs may also exist in combination with softening of the encephalon. To describe in detail each of these complications, would be superfluous. I shall proceed to cite only some of the most common cases.

**SIXTEENTH CASE.—*Softening with slight Extravasation.*—**

A woman, aged sixty-six, had all her life been subject to headach. Menstruation commenced at eighteen, and terminated at twenty-eight; when she suffered nearly two years from chronic peripneumony. For some days she had felt pain in the left ear; and, while rising on the 6th of October, became suddenly senseless. Head inclined on the right shoulder; complete paralysis of the left side; sonorous respiration; full and frequent pulse; profound coma.

7th.—Head bent backward; countenance pale and decomposed; pulse frequent, soft, irregular; respiration sonorous, deep, interrupted by long sighs; whitish tongue; fæces involuntary; partial and clammy sweats, particularly on the thorax; replies correct, but slow; recollection of preceding events gone; intellectual stupor; tongue, when protruded, evidently inclines to the paralyzed side. The patient, interrogated respecting the seat of the disease, directed her right hand slowly to the superior part of the right side of the head, and complained of violent pain there. On the approach of a candle, the left pupil contracted; the right was immovable.

10th.—Countenance more natural and calm; pulse slow, slightly irregular; respiration natural; thick mucus expectorated; tongue yellowish at its base; stools no longer involuntary; intellectual functions sound; recollection restored; motion of the left arm recovered, but pain in the shoulder. Pain in the head continues.

14th.—Better; tranquil sleep; left arm moveable; thigh paralyzed and insensible; violent pains in both limbs. Incipient fretting of the integuments of the coccyx.

16th.—Face somewhat altered; pulse high; appetite gone; severe pains in the left leg; movements of the arm free. Depression; wound of the coccyx enlarging.

20th.—Pains of the head and left side more violent; severe prickling for some minutes in the left leg. Moral depression increased. Ideas and presentiments gloomy.

28th.—Face more altered; pains very violent in the left limbs, but diminished in the head; tetanic stiffness of the left leg; arm moveable; stools involuntary; replies correct; sacral excoriation large and offensive.

30th.—Articulation of sounds difficult.

November 5th. — Pain in both legs; left constantly stiff; sacral slough enlarging.

10th. — Face decomposed and thrown back; eyes watery, and insensible to strong light; pulse frequent, weak, irregular; stools involuntary; delirium, with piercing cries, for an hour during the night; answers correct; no more pain in the thigh.

14th. — Transient delirium; pulse small, contracted, soft; acute pains in the summit of the head; recollection of past events again wholly lost; involuntary stools; slough large and fetid.

16th. — Almost utter abolition of intellectual faculties; tongue dry, brownish; breath fetid; skin dry and earthy; both arms mobile; left leg inflexible; rattling in the throat. Death.

*Dissection.* — General emaciation; sacral slough large, blackish, offensive. — *Head.* All the membranes injected; right cerebral hemisphere, in its posterior, superior, and internal part, yellowish, and flaccid for about an inch; beneath it, a sanguineous extravasation, about eight lines in diameter, and six deep, and of a blackish brown colour; no membrane of its cavity discoverable; rest of the brain firm and vascular. In the interior of the cerebellum, at its posterior inferior part, a cicatrix, of a brownish and yellow colour; its centre resisting the scalpel, and enclosed in a very apparent membrane. — *Thorax.* Right lung inferiorly hepatized; heart large; left ventricle thickened; aortic orifice contracted; stomach contracted in its centre, internally rose-coloured; small intestines inflamed.

SEVENTEENTH CASE. — *Softening of a Portion of the Brain, with Extravasation.* — A woman, aged forty-four, of bilious temperament, was admitted into the infirmary with total speechlessness, preceded by sudden insensibility. No positive information on her present or anterior state, except that she had complained of pain in the side, and general uneasiness, some days before the invasion of the cerebral disease; that she had felt very much hurt at being placed in la Salpêtrière; had never suffered paralysis; and had fallen suddenly senseless while occupied in dressing her hair.

December 4, 1819. — Features altered; complexion yellowish; right facial muscles relaxed; left contracted; mouth closed, and drawn to the right; jaws stiff; pupils contracting; skin warm; reclination on the back; speech gone; loss of motion; and stiffness of the right limbs; their sensibility unimpaired; dyspnoea; dry cough; weak, frequent, regular pulse; no appetite; deglutition impracticable; abdomen hard, tense, and evidently sore on pressure; constipation;

urine involuntary; drowsiness. Stimulant injection, sinapisms to the feet, blister to the head, prescribed.

6th. — Same state. Injection again.

7th. — Same, except that the mouth is open; tongue covered with a brownish fur; understands what is said. Acetate of ammonia.

Four succeeding days the same; face flushed.

12th. — Countenance cadaverous; eyes dim, half open; head thrown back; sense of hearing utterly gone. Death.

*Dissection*, thirty-six hours after. — *Exterior*. Colour yellowish. — *Head*. Membranes natural. Cerebral substance, for about an inch in the centre of the left middle lobe, softened and slightly yellowish. A kind of sanguineous extravasation in the centre of this softening, (in the corpus striatum,) by which a reddish tinge has been given to the yellow substance. An old brownish extravasation enclosed in a cyst, with parietes readily separable, in the centre of the right posterior lobe. Cerebellum a little softened. Spine not examined. — *Thorax*. Lungs posteriorly hepatized; an old cicatrix in their summit; many adhesions. Heart very large; its parietes thickened. — *Abdomen*. Considerable enlargement of the liver; its structure gorged. Internal, gastric, and intestinal membranes red.

**EIGHTEENTH CASE.** — *Sanguineous Extravasation, with Softening of a Portion of the Brain.* — A stout woman, of sanguine temperament, aged sixty-six, was received into the infirmary May 10th, 1820, with severe pains in the loins and inferior extremities. She had never suffered from syncope, apoplexy, or other severe disease.

21st. — In going to the night-chair, she suddenly lost the use of her left limbs, without precursory sign or loss of consciousness. She fell; and on being carried to bed exhibited the following phenomena: cheeks flushed; features altered; skin warm; left limbs immoveable, but retaining their sensibility; reclination on the back; respiration free; cough severe; tongue moist; mouth not bitter; appetite good; neither abdominal pain nor headach; constant drowsiness. Antimonials, sinapisms, injections prescribed.

8th. — Depression; left limbs worse.

9th. — Reclination on the right side; head bent on the thorax; eyes dim and weeping; skin cold; pulse small, irregular; total immobility of the left extremities.

10th. — Worse; sense of hearing apparently lost; the action of smoking performed by the lips. Insensibility. Death.

*Dissection.* — *Exterior*. Face coloured; trunk and extremities yellowish. — *Head*. Membranes healthy. Brain

much loaded. A softening, of the size of a crown piece, in the middle and anterior part of the right anterior lobe; its colour deep red. A circumscribed extravasation occupying the left lobe to the centre of its optic thalamus, which had entirely lost its consistence. Ventricles distended by serum. Cerebellum sound. — *Thorax*. Lungs adherent and *splenetized*. Bronchial glands black and indurated. Heart developed; its parietes much thickened. — *Abdomen*. Gastric and duodenal mucous membrane smeared with mucus, and of a black and fungous appearance. Spine not examined.

**NINETEENTH CASE.**—*Consecutive Softening*.—A robust woman, aged seventy-seven, was admitted into the infirmary July 5th, 1820. Paralysis of the right side had, the preceding year, much impaired the facility of motion. For a month past she had been reserved; and complained of precordial anxiety, and dyspnœa, at times menacing suffocation. She now answered questions obscurely. Her intellect seemed dull. She complained of numbness of the right side. Blister to the nucha; cream of tartar. For some time the patient took her food, uttered no complaint, and ceased to attract attention; yet the paralysis increased; the whole of the right side wasted, and its extremities became œdematous.

September 4th. — Decubitus on the back; arms hanging by the sides; great heat on the skin; profound stupor; eyes dim and without expression; no sign of hearing. Countenance pale, livid, contracted; lower lip hanging down and tremulous; gums sooty; tongue black and dry. No abdominal pain; constant slight cough; great efforts of inspiration. Breath fetid, rattling; impending suffocation. Heart tremulous; small intermitting pulse; occasional efforts to rise.

5th. — Respiration tranquil; neither rattling nor complaint; small irregular pulse; involuntary stools. Death.

*Dissection*. — Membranes of the brain natural. Depression in the convolutions of the right hemisphere. Middle and superior part of the cortical layers of the left posterior lobe exhibiting an appearance of softening and disorganization; an old extravasation here extending to the vicinity of the middle ventricle. The posterior and most dependent part of the same lobe on the tentorium cerebelli, presented, in the convolutions, a similar alteration, traversed by some radiated bands. The right posterior lobe, in its most dependent point, showed its cortical substance in a state resembling mucus; about an inch farther the alteration seemed to diminish; an orange-pink tinge was there perceived. A small cavity in the

right optic thalamus. Cerebellum soft. Whitish mucus in the small intestines; their membrane inflamed. Lungs adherent to the pleura and pericardium; and the thickened pericardium to the heart. This organ rugous, and presenting slips of adventitious membrane. Fatty state of the parietes of the right auricle, and dilatation of its cavity. Origin of the aorta ossified.

I cannot proceed without pausing on an important question, agitated by some authors, as to the relation which exists between cerebral softening and sanguineous extravasation—When both take place, which is the primary affection? Without entering into the opinions adopted by writers on this subject\*, which would lead me too far, I shall merely state my own mode of thinking. I believe this softening to be, in most cases, a primary disease; and that this morbid change singularly favours sanguineous extravasation. It may, indeed, be conceived, that the vessels, being less perfectly supported, will readily rupture, and thus produce extravasation; yet I do not think that softening invariably takes the precedence. Extravasation takes place without softening; but may also be thus induced. I shall presently state my own ideas of its formation, and the signs by which primary and consecutive softening may be distinguished from each other.

**TWENTIETH CASE.—Cancer and Softening of the Brain.—**

A woman, aged sixty-two, addicted to the abuse of spirituous liquors, had been repeatedly, for a short period, deranged in intellect. She sometimes complained of headach, and even raved occasionally; when, on January the 16th, she was seized with vertigo, delirium, and vomiting of aliment.

18th.—Countenance changed and yellowish; mouth drawn to the right; paralysis of the right limbs; pulse small and soft; respiration deep and moaning; tongue whitish; thirst; constipation. Intellect wholly deranged; and constant delirium, remarkable from the automatic repetition of all the words and phrases uttered around her. A sense of severe and lancinating pain referred to the front of the head; stools involuntary. Night restless; constant agitation; screaming; pupil sensible to light. These symptoms unchanged for twenty-four days.

Feb. 11th.—Face more altered; nocturnal agitation and screaming subsided; profound coma; plaintive respiration; involuntary stools.

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\* See the work of Rochoux, page 89. I am gratified in seeing that my own opinions frequently coincide with his.

18th. — Better; walked herself to the night-chair; left leg swollen.

25th. — Face earthy, decomposed; right limbs painful on motion; pulse frequent, wiry; respiration moaning; skin very hot; coma.

March 7th. — Left leg no longer swelled, but painful on motion; face yellowish; sweats cold, clammy, and partial; right side wholly paralyzed; pupils contractile to the last; respiration stertorous; pulse irregular, almost imperceptible. Death on the 8th.

*Dissection.—Exterior.* Skin yellowish; marasmus.—*Head.* Cranium thin; dura mater and arachnoid loaded.—*Brain.* Left hemisphere: convolution apparently obliterated externally about the middle superior part of its external surface. Whole hemisphere softened. A small, yellowish, granulated nucleus about the middle of the summit, just below the cortical substance. Anteriorly, in the corpus striatum, a cancerous tumour, of the volume of a nut, compressing the ventricle. Cerebral substance disorganized around; the surface of every incision presenting a glistening, and, as it were, varnished appearance. Right hemisphere injected towards its posterior part. A considerable cancerous tumour, surrounded by pulpy cerebral substance. Medullary structure less developed than on the opposite side. Cerebellum very large.—*Thorax.* Melanosis; tubercles of the right lung; scirrhus tumour at its superior posterior part. Some serum in the pericardium.—*Abdomen.* Intestines inflamed at intervals; uterus very small.

**TWENTY-FIRST CASE.**—*Pleuropneumony and supposed Softening of the Brain.* — A woman, aged sixty-seven, first menstruating at seventeen, married at twenty, and a childless widow at forty, was admitted January 9, 1819, with deep-seated pain in the left thoracic region, of three days' duration, aggravated by inspiration — not by touch. Infrequent dry cough; flushed cheeks; tongue white and moist at its base, red and dry at apex and borders; skin hot and rather dry; fever, with evening exacerbation; thirst; constipation: these symptoms consequent on suddenly suppressed diarrhoea. Leeches to the left side; mucilages; emollient injection.

It should be remarked, that the right arm of this woman was contracted and incapable of motion, but sensible to pain when pinched. This imperfection was limited to the arm. By the report of an acquaintance, it appeared that the loss of motion had been preceded by numbness and tingling in the hand, fore-arm, and subsequently the arm. The numbness gradually increased, and then disappeared; but the fore-arm remained slightly contracted on the arm, the latter on the

trunk, and its functions were destroyed. The period at which the numbness commenced and subsided could not be precisely determined. I now return to the peripneumony.

30th.—Lips and tongue black; features altered; hard cough; bloody expectoration; pulse small, frequent, irregular.

31st.—Asthenic symptoms aggravated; expectoration suppressed; respiration stertorous. Death next day.

*Dissection.*—Nearly whole left lung hepatized; effusion of albuminous flocculi into the thoracic cavity; a little serum in the pericardium; abdomen healthy.—*Head.* Membranes sound; brain firm, and convolutions very strongly-marked; cerebellum exhibiting a singular aspect; all its circumference transparent, and of an opal white colour. At the inferior part of the right lobe, near the tuber annulare, a very strongly marked depression, produced by an exostosis, which occupied the corresponding part of the petrous portion of the temporal bone, and the adjacent portion of the occipital. This osseous tumour, about four inches in circumference, was of a rounded form, and projected five or six lines. The depressed portion of the cerebellum very much softened.

It would be curious to know whether this woman had ever suffered from syphilitic disease; but the researches made on the body, and the information collected from her companions, afforded no proof of it.

**TWENTY-SECOND CASE.**—*Enteritis and Cerebral Softening.*—A woman, aged sixty-five, small, but stout, and of sanguine temperament, had for some time been in precarious health, and complained of severe abdominal pains and headach. Mild remedies failing, she had recourse to an empirical preparation, which induced violent hypercatharsis and extreme debility. On admission into the infirmary, her features were decomposed; tongue dry; thirst urgent; mouth bitter, with propensity to vomit.

The epigastrium and abdomen were intolerant of the slightest pressure; stools suspended; the skin was warm and dry; pulse frequent, not very full. There existed remarkable stupor, and very violent headach. Mucilages by the mouth and rectum, leeches, abstinence, and repose, were prescribed; but the symptoms were only aggravated in violence: and about the fifth day, without any complaint of the patient, in consequence of the delirium, which was also increasing, the right arm was observed to be a little violet-coloured, and very difficult of motion. On attempting to raise it, the patient screamed out. This state proceeded rapidly till death, which took place on the tenth day.

The convolutions of the left anterior lobe (of the brain).

were found of a pink colour, and the corresponding corpus striatum reduced into a jelly. The intestines were in a state of general inflammation\*.

## DEPARTMENT OF NATURAL HISTORY, &c.

*Calendar of Fauna, Flora, and Pomona, kept at Hartfield, near Tunbridge Wells. By Dr. T. FORSTER. From the 1st to the 31st of December, 1820.*

December 1st. — This month set in with cloudy dark weather, of rather high temperature for the time of year.

4th. — An appearance resembling the northern lights attracted the notice of persons in this neighbourhood to-night. I saw it first in the S. E.; and it looked like the reflection of some distant fire in the clouds; but I perceived it vary rapidly in brilliancy, and seem to dart up in rays. I also noticed the luminous state of the air in the N. E., and found that the lights changed about in different directions. At eleven P.M. thermometer 50°, barometer 29° 88', wind W., sky cloudy.

5th. — The Aurora borealis seen again this evening about the same time as last night.

15th. — Beautiful red folds of wanecloud at sunrise foreboded the east wind, which set in at night. Woodcocks and Snipes are now arrived in abundance.

20th. — Returning from Charlwood, across Copthorn Common, I noticed very large flights of Lapwings (*Vanellus Gavia*). I also took notice of a great many Snipe†.

24th. — The following plants here and there are in flower on Christmas Eve, owing to the mildness of the season: *Primula verna*, *Bellis perennis*, *Ranunculus arvensis*, *Anemone hortensis*, *Amaryllis lutea*, *Cheiranthus incanus*, *Ch. fruticosus*, *Viola odorata*, *Achillea millefolium*, &c. &c.

25th. — A cold black frost, with N. E. wind, set in to-day, which will cut off all the remaining flowers. Fieldfares begin to fly about in small flocks.

27th. — The great ash-coloured Shrike (*Lanius excubitor*) was shown to me to-day, which was shot a few days ago near Summerfield, in this neighbourhood. This is a very rare bird

\* This memoir will be continued in our next Number. — EDITORS.

† Both this bird and the Woodcock arrive in Great Britain in small detachments by night, generally in moonlight weather. They are late this year.

in the cultivated parts of England, though it is said to be common in the eastern parts of Europe, and also in Scotland.

This month closed with very sharp weather, a black frost with a cutting easterly wind, and the ground and water frozen very hard, the thermometer varying very little between mid-day and midnight. Just before the setting in of the frost I noticed some of the mosses to be very luxuriant. Many fungi were so suddenly seized on by the cold as to be frozen in an upright position, and rendered almost as hard as ice.

[*This Journal is to be continued in the neighbourhood of Tunbridge Wells.*]

## PART II.

### ANALYTICAL REVIEW.

[We have been favoured with the following analysis by Mr. Haden of Sloane Street. It will readily occur to the Reader why we thus state that the article was not furnished by one of our regular corps of critics. The remaining portion of the volume the Editors will themselves notice at a future opportunity.]

#### I.

*A History of the Epidemic Fever which prevailed in Bridlington and the Neighbourhood, in the Years 1818 and 1819.* By HUMPHREY SANDWICH, Surgeon, Bridlington. Also *Observations in Medicine and Surgery.* By THOMAS SANDWICH, Surgeon, Beverley. London, 8vo. pp. 317. 1821. Burgess and Hill.

THIS volume is the joint work of two brothers, and it does much credit to them both. The title-page will point out generally the subjects which are discussed by each; and our analysis will show that the praise is not improperly bestowed, at least with regard to the first-named gentleman.

In describing the fever which was epidemic at Bridlington, Mr. Humphrey S. has entered largely into the subject of fever in general; and as he seems to have brought to the discussion an active and ardent mind, and has shown, moreover, an intimate acquaintance with all the best modern authors on the subject of fever, we shall follow him in his progress, and try to show at once the sum of his experience and the causes which have led to that sum being so large.

It is not indeed wonderful that the subject of fever, when brought home to a man's feelings by the existence of a severe epidemic, should call up the best energies of the best mind; for it is, indeed, the one most interesting to a medical man. Fever is the most common of all complaints. In one or other of its innumerable forms it constitutes the leading feature of, we believe, all acute complaints; whilst in chronic disorders, though its presence may not always be so clearly indicated or so important, yet it takes an abundant share in those exacerbations to which they are so frequently liable. It is, at it were, Nature's universal index, by which she makes manifest the irritations under which she suffers; for whether the cause of fever be contagion or marsh miasmata, or it be cold, intemperance, or any other of what we call common causes; whether the disease be typhus, or a *coup de soleil*, pneumonia, or an ephamera from mental anxiety or from repletion, the essence of the complaint is still the same, though the march of the resulting symptoms, and, indeed, their importance, will be as various as an almost innumerable list of modifying circumstances can make them.

One of our cotemporaries said, the other day, that his readers must be tired of the subject of fever. We wondered at so thoughtless an expression; for no thinking medical man can be tired of a subject so vitally important to himself and to his patients: and now, when, by the new views which have been lately promulgated, it has been at last robbed of its mysterious scholastic garb, and brought before the eyes of Physicians as a tangible matter, it is, we are sure, impossible even to see a case of fever without feeling anxious to probe still deeper into the subject, with the hope of increasing further our already much increased power over the disease.

We are certain at least that Mr. S. thought so, when he felt himself opposed to the Bridlington epidemic; for his book shows abundance of both industry and enthusiasm.

His industry appears from the following facts:—Seventy cases of fever occurred to him in the course of the years 1818 and 1819. Of these seventy cases he has given a tabular view; complete as to dates of all kinds, complete as to the times of bleeding and the quantities taken away, and as complete as a tabular view can be in the matter of symptoms and of the other peculiarities of each case.

His enthusiasm is shown, by the extensive researches which he has made into the works of the best modern authors on fever, and by the ardour and *con-amore* spirit which he has displayed in discussing the subject of fever generally, as well as in illustrating his discussion by a classification of the cases which had passed through his hands.

He divides his work into three parts. The first is a statistical and meteorological account of Bridlington and its neighbourhood; the second consists of what he calls the "internal evidences" of the nature of the epidemic, or, in other words, its symptomatology, as Dr. Johnson names it; and the third, of the treatment which he employed. Mr. S. has, however, added to these divisions, "concluding observations on the nature of fever," which, with the tables of cases, form his portion of the volume.

The first division is incompletely made out, because, to be of much use in illustrating the causes of the epidemic, the meteorological differences of these and the preceding years should have been stated. This is, however, of little importance; especially as the author considers the epidemic at Bridlington to have formed a part of the great epidemic fever which spread over England, Scotland, and Ireland, about that period; and which, he says, was connected "both with political adversity and a deficiency in the productions of nature in the years 1816 and 1817." He states also, that the disease spread first from a contagious case which occurred at Bridlington Quay.

The second division of this work is very important, as it includes Mr. S.'s classification of the varieties of the epidemic, as well as his account of the symptoms which attended this fever: and here it is worthy of remark, how much Mr. S.'s details illustrate and confirm the fine generalization of fever in its endless forms, which was, we believe, first suggested by Dr. Armstrong.

Mr. S. divides his cases into those of simple typhus, in which he believes that "the nervous system suffers merely from the agency of general fever;" that is, cases of fever without inflammation; secondly, into inflammatory or congestive typhus, in which "the nervous system is thrown into additional disorder, from its intensely sympathizing with inflammation or congestion in other important organs;" and, thirdly, into similar cases of inflammation or congestion, "in which the nervous system appears to be essentially implicated in an idiopathic and primary inflammation or congestion."

In this arrangement, the grand features of simple, inflammatory, and congestive typhus, are essentially involved; and we mention it because we believe that the formation of that arrangement, or, in other words, the pointing out distinctly, that the character of fever is determined by the collateral local affections which give rise to the classification, constitutes by far the most important addition that has ever been made to our knowledge of fever. Before

that was done, our practice was a chaos, and our pathology was absurd. Since that time we have possessed a rational, and, we may say, an unerring index, to guide us through the endless mazes of the febrile labyrinth.

As far as we know, the credit of first clearly stating this luminous view of fever is due to Dr. Armstrong; and great as the improvement appears, and universally as it has been adopted, (even so universally as to have almost robbed its inventor of his due consideration, by having become, thus early, the common property of the Profession,) we have not yet by any means received all the benefit from it which will, we believe, sooner or later, become manifest.

When pushed to its extremity, as it must and will be, we believe that it is doomed to change the whole face of pathological nomenclature; and we hope that its first promulgator will not relax in his exertions, until he has shown us more fully the wide-spreading effect which it will have on our nosological systems.

In discussing his cases of simple typhus, Mr. S. includes amongst them such milder forms of inflammation as border closely on the inflammatory species, calling them cases of aggravated simple typhus. We consider this difficulty as a tacit evidence in favour of an old opinion of ours, that Dr. Armstrong has somewhat erred in supposing that there is no local affection in simple fever. We believe, that if a local cause were not in existence to create new paroxysms of fever, and otherwise to make the fever continued, all fevers would terminate in a single paroxysm. This local irritation may be so mild as to be perceived with difficulty; or it may reside in a change which has taken place in the blood from the operation of the cause producing the fever; or it may be of a nature to us unappreciable: but if it did not exist, we believe that the fever would cease on the decline of the hot fit, is set up by which the constitution for the solution of the previous stage of oppression.

Thus Mr. S.'s details of the symptoms in his cases of simple typhus show, that various organs were slightly but permanently affected. In some, headach, delirium, watchfulness, &c. marked the brain as the part affected; in others, the coated tongue, the flushed cheeks, and diarrhoea, pointed towards the bowels; whilst in others, cough, dyspnoea, and expectoration, showed that the viscera of the thorax bore the brunt of the increased action.

In some cases also these symptoms, evidently caused by local irritation, became aggravated, so as to bear being called inflammatory; and thus Mr. S.'s cases of aggra-

vated simple typhus arose; coming on either early in the disease, or gradually stealing into notice after the lapse of some days. And, indeed, on this gradual conversion of the disease into new forms, Mr. S. grounds a very sensible addition to Dr. Armstrong's treatment of simple fever; that is, to bleed as an anticipation of evil; for he says that his tables show "*passim*" that "those cases of simple typhus, bordering on the inflammatory, were restrained within the limits of the present classification (simple typhus), and prevented from passing into the inflammatory or congestive forms by the timely use of the lancet or leeches, or, in other words, *by anticipating evil*." In fact, by such treatment he destroyed that low degree of increased action, which would, without it, have extended itself into well-marked inflammation.

We cannot give here much idea of the vivid and ingenious illustrations of the peculiar forms of fever with which Mr. S. has enriched his description of this and of his other species of fever; but we are sure that our readers will turn to them in the volume itself, and their labour will be rewarded. The pleasing and interesting part of it, however, to us, is the perfect mode in which they arrange themselves, as natural consequences of the new views respecting the local causes of the complications and varieties of fever, on which we have said so much above.

In another point also this part of Mr. S.'s book becomes eminently illustrative of the same truths. With a most praiseworthy candour he points out his mistakes of treatment. He shows how certain consequences always followed certain omissions or errors; how his earlier cases were less successfully treated than such as occurred after his experience had become more extended; and how these circumstances all tended to establish, in his mind, the omnipotence of the new pathology, as far as treatment is concerned. So fevers became protracted as they were dealt mildly with at the beginning; more violent cases were cut short or robbed of their danger by opposite measures; and every variety of the disease appeared to be subject to the same law, and to be mild or severe just as it was or was not considered as a disease of increased action.

Mr. S. lost two patients from inflammatory typhus; and he says, as part of his regret —

"I confess, indeed, my conviction, that more energetic measures might possibly have saved them. I think so, (in addition to those general reasons for bleeding in typhus fever, which I shall state elsewhere), because when I came to employ the lancet in equally severe cases of this variety, I was enabled to avert the fatal shaft

in every instance. It is not a little singular, moreover, that each of the little boys, whose deaths I am deploring, had a brother severely, though in some measure differently attacked by fever; in both which cases I bled, and they recovered. Thus, in each family, apparently from difference of treatment, 'one was taken and the other was left.'

In the above quotation there is manly feeling, accurate observation, and sound, important deduction.

Mr. S., as will be anticipated from the enumeration of his species, refers most of the appearances of the fever to affections of the nervous system, through the medium of the increased vascular action; and he is led to make many important observations in illustration of this opinion. So he marks the connexion of delirium with thoracic inflammation; and agrees with Dr. Armstrong, in its being caused by the impediment to the circulation through the lungs increasing the embarrassment which accompanies the increased flow of blood to the brain.

He shows also how the inflammatory cases included specimens of almost all forms of inflammation in the vital organs; how these inflammations extended themselves to the neighbouring parts, or to such as were connected by similarity of structure, or by what we call sympathy; how cynanche trachealis succeeded to bronchitis, and inflamed brain to other forms of thoracic (probably bronchial) inflammation; and how such inflammation terminated in the ordinary way, as when not a part of specific fever; that is, sometimes in death, sometimes in resolution, and sometimes, in the common sequelæ of such complaints, as pseudo-phthisis after bronchitis, &c.

Moreover, from the perfect manner in which Mr. S. kept his seventy cases, he is enabled to add most essentially to the value of his observations by accounting for every one of them, and by showing the numbers of each peculiar affection; thus proving that they all fell in as illustrations of the general doctrines of fever above mentioned.

Not a few, however, of the most interesting cases occur in the account of the severe forms of his third species of typhus; that we mean, in which he believes the nerves themselves, or some part of the nervous system, to be inflamed or congested primarily and idiopathically.

We are, indeed, not quite aware of the philosophy of separating this species from the second, instead of considering it as a more dangerous form of the latter; but this is of but little importance. The cases, however, are very valuable; and are related as a commentary on Dr. Clutterbuck's enumeration of the four forms in which the nervous system, or brain, as he (Dr. C.) calls it, is affected in fever.

The first variety is, where the symptoms, as indicated by

the pulse and heat of skin, were mild, yet the functions of the brain were greatly disordered. In these cases the prostration of strength was exceedingly great, the tongue very brown and dry, and the delirium urgent; but bleeding cured the patient.

In the second variety, the pyrexia was violent, and the functions of the brain were but little disordered; but in neglected cases, "the direful effects of a maddened and unrestrained career of the circulation on the functions of the nervous system" became apparent, and they are, indeed, most forcibly depicted by the relation of two cases. In one, that of a medical friend of Mr. S., ardent fever was present; when—

"On the evening of the sixth day of illness the patient was seized with a sort of febrile syncope, which followed an interview calculated to affect his feelings and excite his mind. Shortly after he had retired to bed, the cheeks purpled, and the temperature of the skin began to be augmented. I measured it at nine o'clock, and found it ninety-three degrees, pulse 116. I was sponging his hands and face with tepid water, when he became exceedingly low spirited, and said, 'Sandwith, I feel as if I was going to die!' This he repeated many times, accompanied with an air of great anxiety, and deeply and repeatedly sighing. I strove to cheer him, but in vain. At ten o'clock the temperature had sunk so much, that on measuring it I found it only eighty-three degrees; and the pulse fluttered, and counted 128 in the minute. No time was to be lost. I gave, first, a tea-spoonful of volatile alkali, then a glass of wine, and then brandy, in quickly repeated doses. In despite of these measures he appeared sinking, and lay about half an hour almost entirely pulseless, and utterly unconscious of surrounding objects. A sort of spasmodic action seized the œsophagus and larynx. He made a crowing noise, and foamed at the mouth. I dashed cold water on the face, which made him gasp, and then applied a bladder filled with hot water to the region of the heart. At length the pulse resisted the finger, and he awoke as from a dream."

The cordials which were thus necessarily given aggravated the fever. Typhoid symptoms appeared, subacute inflammation of the brain came on, and

"On the morning of the ninth day of illness, after a delirious night, the cheeks being deeply flushed, and the vessels of the conjunctiva turgid with blood, Mr. K. fell into the same mental anxiety and depression, which was the prelude, on a former occasion, to that tremendous syncope which had nearly extinguished life. He sighed deeply and repeatedly, but spoke not a word, even when most anxiously interrogated. Dr. Simpson of New Malton witnessed the painfully interesting scene. When, instead of a morning remission, these symptoms presented themselves, the flushed cheek, the turgid eye, and this oppression of the nervous system, the

true nature of the case flashed across the Doctor's mind. The melancholia he considered to be entirely dependent on cerebral inflammation. The peculiar phenomenon described before was intelligible on the same principles; the depressing passions, which had in part occasioned the paroxysm, being far from sedative on the vascular organization of the brain. The excitable state of the patient's system was another proof to Dr. Simpson's mind of the correctness of his views. I had fomented the feet by his direction; and the speedy consequence was a most intense degree of flushing and heat over the whole body, which brought on a profuse perspiration, that did not at all diminish the fever. A profusion of leeches to the temples, no fewer than thirty, did not arrest the progress of the inflammation. The patient frequently wandered during the day, and was never wholly rational. The nightly exacerbation, accompanied with a maniacal delirium, the delirium ferox, came on at bed-time. Leeches were applied again. After the bleeding had ceased, I went to bed, leaving the patient with a fierce expression of countenance, an uncommonly glistening eye, a suspicious look, and talking very wildly. I was called up in the morning at an early hour, and to my grief and astonishment found the patient out of bed and very unmanageable. Dr. Simpson visited him at nine o'clock, and, affected with the increasing violence of the symptoms, in defiance of the preceding and other measures, was still more and more confirmed in his opinion of there being phrenitic inflammation, and to a most alarming extent. He actually dreaded a speedy effusion; or, if active depletion could ward off that danger, it was impossible to say whether or not the intellectual functions would be permanently injured; such unhappy consequences being by no means uncommon in fever. He got me instantly to open the jugular vein, and abstract twelve ounces of blood; which being done, a cold perspiration and the paleness of syncope supervened. He requested me moreover to repeat that measure the same evening, should a violent return of fever indicate its propriety. Mr. K. continued more passive and with a cooler skin all the day. There were cheering manifestations, also, of gradually returning mind. Perception and memory yielded decided evidence of melioration, as might be inferred from a progressively increasing knowledge of those around him, and inquiries after his children and other relatives. When evening approached, however, the cheeks flushed, and the skin glowed with a morbidly excited temperature; and soon more marked aberration was discoverable. At nine o'clock, therefore, I reopened the jugular vein, and took away about ten ounces of blood in a bold unimpeded stream. This measure had the desired effect only for a season; checking but not preventing a return of fever and delirium. More violent maniacal symptoms than ever recurred at one o'clock in the morning. In fact, I could myself scarcely restrain the patient in bed. Towards morning he became calm, and fell into a profound sleep, which lasted about forty-eight hours; after which, he kept himself awake during longer intervals."

Under these circumstances, a profuse perspiration came on, the tongue cleared, the mental and bodily powers returned, and the patient was convalescent on the twenty-third day, although a torpid state of the liver somewhat retarded the convalescence.

The second case proved fatal on the eleventh day; and in it, "a state of prostration and insensibility, highly indicative of congestion in the whole nervous system," quickly followed the supervening of "enteritic inflammation."

In all the other cases of this variety, these deplorable consequences of increased action were averted by a timely use of the lancet.

In the third variety, the fever runs high, and the disorder of the sensorium is in an equal degree aggravated. Such a state, it is said, "is never of very long duration." The fever abates, but the sensorium becomes more embarrassed; symptoms of putridity come on, and the scene is soon closed.

By a reference to his tables of cases, Mr. Sandwith shows how certainly these consequences were averted by early and decided bleeding.

In the fourth variety, Dr. Clutterbuck says, that all the symptoms are mild for a week or more, and that "then the disorder of the sensorium increases from day to day, till it arrives at its highest pitch."

Some of Mr. S.'s worst cases were of this description, and one of them terminated unfavourably; but the rest were managed with equal certainty by decided depletion. Mr. S. here makes some remarks on the difficulty and importance of determining at what period of individual cases the stage of collapse commences; he being led to this, by having erred in treating symptoms of increased action too indecisively, when they occurred after the sixth or seventh day of fever, that being the period marked out by Dr. Armstrong as the usual one for the commencement of the stage of collapse. He decides that this period is fixed too early.

A very good case follows, descriptive of that fallacious state of melancholy and of depressed power, which is, or rather was formerly, so often mistaken for debility, but which was fully relieved by active depletion.

It does indeed require a close attention to all the symptoms, to distinguish between these opposite, but apparently similar states; but with diligent observation, an unbiassed mind may generally decide rightly between them.

The section on TREATMENT follows; and it comprises a discussion, "to a certain extent, of the merits of the different therapeutics in typhus fever."

A history of the practice of bleeding in fevers is first given; and whilst, as may be anticipated, Mr. S. proves himself to be a decided advocate for the lancet, he shows how his early fears on that head led him to treat his first patients in this epidemic with far less success than attended his practice afterwards, when his previous errors had, as he says, become "open arguments of a truth forced on me by the conviction of my senses." He goes on to prove, first, "that blood-letting is by far the most efficient agent ever wielded in the contest with fever;" but, as if in reference to the subject mentioned immediately above, he strongly cautions Practitioners to be careful not to employ the lancet in the stage of collapse; and he relates, in corroboration, a very interesting case, which we shall transcribe, as a specimen of his best style, and a proof also of his kindly feelings, and of the enthusiasm with which he prosecutes his professional studies.

"The patient was a promising youth, the son of a shepherd, the stay of his family, and "their eldest hope." I found him supine and motionless, his chest heaving from laborious respiration, the skin bathed with cold and clammy dews, the pulse wavering and scarcely perceptible, and the countenance sunk and depressed, and its expression ghastly and death-like. Having opened the window to avail myself of the restorative powers of fresh air, I seated myself by the patient, in whose fate I felt the liveliest interest, that I might note the ever varying indications of lingering life, which apparently was ebbing fast away. The smallest improvement in the chilled temperature of the extremities, any amendment, however trivial, in the respiration or pulse, or in the languishing powers of the mind, I hailed with delight. But there was a long continued struggle between hope and despair, for it was one of those cases in which the most decisive use of cordials can alone avail. It verified the remark of Dr. Beddoes, that wine and other cordials often exert but a momentary influence, requiring a persevering repetition. Notwithstanding the repeated exhibition of cordials and nutritives, my patient gradually became worse and worse, until, actually

"Set were his teeth; his fading eye  
Was sternly fixed on vacancy."

Bottles, and a bladder filled with hot water, were now applied to the feet and scrobiculus cordis. I wrenched open his rigid jaws, and poured down his throat copious draughts of wine and volatile alkali. I had done all that art could suggest, and I awaited the effect of these measures with fearful expectation. In a short time the pulse resisted the finger, intelligence relumed the eye and countenance, and he awoke as from a dream: at that moment I placed a sprig of wallflower beneath his nostrils, and he whispered, 'Oh how sweet!' The vital actions finally established themselves."

The question of how late bleeding may be adopted in

fever, follows; and amongst his quotations from Dr. Armstrong, Dr. Welsh, &c. Mr. S. gives a reference to all the cases in which he bled late, with this very judicious remark: that "all precise rules without reference to existing circumstances" are "vain and futile;" that is, that the patient's state, accurately considered, must in all cases decide the question. Mr. S.'s cases then will be studied in this point of view very advantageously, as also may his accompanying observations. On the whole, his peculiarity of practice is to bleed in almost every case, whether of simple or complicated fever, when called in early. He does this as a means of averting future consequences, and perhaps the practice is a good one; for we believe that in the early stages of open fever, bleeding in moderation is always safe.

Mr. S. seems to have trusted almost exclusively to bleeding in his treatment. He appears to be afraid of hypercatharsis or dysentery if purgatives be pushed liberally; notwithstanding, he asserts, that after bleeding, free purgation is the best remedy, especially in pulmonary cases. He found that cordials were seldom useful before the end of the third week, and he often is led to lament his having prescribed them earlier.

This section concludes with Mr. S.'s observation that the disease was peculiarly severe in children; and also, which agrees with our own experience, that children bear and require the use of the lancet, but not to so great an extent as adults.

Mr. S.'s concluding observations are "ON THE NATURE OF FEVER."

Mr. S. grounds his remarks on the opinion, that the nature of fever is to be elucidated in three ways; by clinical observation, by morbid anatomy, and by physiology.

Clinical observation, as he truly says, unless, indeed, it be conducted with almost super-human acuteness, can never alone make a perfect Physician; and whilst morbid anatomy has, of late years, been sedulously studied, with reference to the nature of fever, we agree with him in saying, that physiology has been brought to bear on the subject less decidedly than is desirable. By this remark, Mr. S. only means that medical men have been too easily satisfied by the sight of morbid appearances, and too remiss in not attempting to obtain "a satisfactory explanation of the disease through its different stages, by a careful collation of symptoms with progressive organic derangements," and by trying "to assign to each organic lesion its exact influence in producing the fatal result."

That physiology, when thus considered, is the life and

soul of discussions on fever, is most true; and medical men should receive Mr. S.'s observation as a golden sentiment, as thus expressed.

Mr. S. says, moreover, that the nervous system is primarily disordered in fever; that the vascular system then takes on the morbid action, and, as Dr. Armstrong remarks, is, "in reality, the most in fault," when practice is considered. He illustrates his position, that "a vitiated state of the blood-vessels is the true explanation of numerous aberrations in the functions of the nerves in a variety of diseases," by a reference to cases and to authors; it having been found, that abundance of nervous diseases, such as amaurosis, headache and its aggravated varieties, and insanity, and other more fugitive affections of the brain and nerves, have been, and are, daily cured by unloading the blood-vessels.

But whilst thus showing that a morbid state of the vascular system has so much influence in producing the treatable phenomena of fever, Mr. S. doubts whether this state be "not the production, rather than the precursor of febrile action;" because, he says, it may be "detected in both these relations;" and, as he further supposes, "that some injury is *at first* inflicted on the vital organs;" and, also, that though the first operation of the cause of fever may be sedative or debilitating, yet "as to all practical purposes, we may afterwards safely lose sight of the primary cause of the morbid phenomena," it seems to us, that he either has not, as he is very capable of doing, traced abstractedly the rise of the different phenomena of fever, beginning with the operation of the first cause on the constitution, and showing physiologically how the endless shapes of fever spring out of the new actions which are thus produced, or he has not understood the luminous views which Dr. Armstrong has taken of this subject. Dr. Armstrong's theory, we believe, is, that the debilitating action of the first cause of fever on the nervous system produces torpor or irregular action of the vascular system; so that the blood becomes accumulated in the internal veins, thus producing the cold or oppressed stage of fever, and in its continuance the congestive form of the disease; and that the open forms of fever are produced by an excess of the re-action which is set up to equalize the circulation, and to drive the venous blood out of the congested parts; simple fever or inflammatory fever following, just as the equalizing of the circulation is nearly perfect or is imperfect, as far as relates to particular organs; which organs, as they continue to be obstructed, are forced by the increased arterial impetus into a state of inflammation, the part thus affected giving the characteristic feature of that individual case of fever.

We see, however, that Mr. S. has a not incompetent idea of that Physician's theory; for he says:—

“ It thus appears, that venous congestion and arterial repletion, with their appropriate consequences, are separately or conjointly the concomitants of fever. The disease will consequently have a congestive or inflammatory character, as one or other of these conditions prevails in excess. High re-action marks inflammation; want of re-action, congestion: while in mixed cases, and in the slighter forms of the congestive variety, an imperfect and partial excitement is gradually developed. Venous congestion is probably essential to every variety of the complaint; but it is only when it prevails in excess, unaccompanied with arterial repletion, that it gives that decided peculiarity to the disease which distinguishes it from the ordinary forms of fever.”

Mr. S. says further, that congestive fever is “ no novelty in the annals of medicine;” and he refers to many cases in the works of various authors.

With regard to the inflammations occurring in fever, he says, and truly, that they are “ wholly accidental;” and he shows how the brain and nervous system are more frequently affected than other parts, not excepting even the stomach. He shows, also, the predisposing causes which lead to the one variety or to the other. As illustrative of his opinion, that the nervous system is the most commonly affected, he gives a brief outline of the physiology of that system, principally from Dr. Wilson Philip. In this he states, that the sensorial power, which resides probably in the brain, “ appears to consist wholly in receiving impressions and communicating them to the nervous power;” that the nervous power, which seems to reside principally in the spinal marrow, “ performs the more complicated functions of preparing the various secreting fluids, and causing an evolution of caloric from the blood, and it is the means by which impressions are conveyed to the sensorium;” and that “ the muscular power is proved to be a principle in the animal economy wholly independent of the nervous system.”

He then attempts to show how the morbid actions of the vascular system, by acting on and deranging the actions of the nervous system, produce the aberrations of that system which form the symptoms of fever. And he classes these aberrations into,

1. *Disordered Intellects*; proving his position by pointing out how a diminished circulation produces dejection of mind, &c.; and increased action, delirium, and its open varieties: into,

2. *Disorder of the Sensitive Functions*; showing from Beddoes on Fever, p. 78, how the nerves are altered in

structure in fever, and how increased vascular action produces and aggravates nervous symptoms: into,

3. *Disordered Secretion*; surmising, that we may "ascribe the suspension of the various secretions to the interception of nervous influence, occasioned, as in the other disorders of the nervous system, by sanguineous determinations, in ever varying degrees of intensity, to the spinal marrow more especially:" into,

4. *Disorder of the Calorific Functions*; supposing that the great and important changes, both as to depression and exaltation of the animal temperature, are connected with the derangements which disordered vascular action causes in the spinal marrow; illustrating the same by many curious and important remarks as to phenomena which have been actually observed: and into,

5. *The Irregularities of Muscular Motion*; showing that the independent vitality of the moving organs, the circulating as well as the rest, is very important in averting death from accidents, which interrupt every vital process; and that consequently the involuntary muscles are not so powerfully acted on by the causes of derangement in fever, though the voluntary muscles show more the effects of this agency. This happens, however, rather from their powers being indirectly annihilated, by the suspension of the sensorial and nervous powers, than from their own energies being interfered with; for though the muscular energy may remain, the power to will and to execute is dependent wholly on the sensorial and nervous powers, and is therefore lost because the functions of the latter are deranged.

Having thus given so much attention to Mr. S.'s observations, it will be impossible to consider further either his appendix or the hundred and fifty pages of valuable "Observations in Medicine and Surgery" which follow, from his brother, Mr. Thomas Sandwith, of Beverley: we shall, therefore, only add the first and last of his tabular cases, as a specimen of the industry and perseverance with which he amassed the observations which have enabled him to write his very excellent work.

"No. 1. Male, aged twenty-seven; Surgeon of Bridlington. Form of fever—acute inflammatory typhus; seized Jan. 11, 1818; first visited Jan. 16. Predominant symptoms: headach at first; sleeplessness; fit of syncope or epilepsy; maniacal delirium; heat one hundred and two degrees; pulse 120. Organ most affected—brain chiefly, lungs and liver slightly inflamed. Ordinary treatment; purgations; alteratives, digitalis and salines; blisters to the nucha and ears; head shaved, and tepid washings; mild tonics; inf. aurant. &c. Date and mode of bleeding.—Jan. 21, V.S. in

jugular. ad  $\text{℥xij}$ . A.M. ad  $\text{℥x}$ . P.M., Jan. 14, (the dates here are wrong), hirud. xvi. ad tempora, Jan. 20, hir. xxx. ad temp. A.M. hir. xii. ad temp. P.M. Jan. 28, hir. xii. ad temp. Feb. 1, hir. xii. ad hypochond. dextrum. Date of evident decline, Jan. 26. Convalescence, Feb. 3. Days sick, twenty-three. Probable cause, contagion. General remarks—for more minute details, vide p. 41. Dr. Simpson was in consultation. Crisis, by long continued sleep, profuse perspiration, and expectoration.”

“ No. 70. Female, aged sixty, labourer’s wife. Form of fever, simple typhus, bordering on the inflammatory; seized Dec. 26, 1819; first visited, Dec. 31. Prominent symptoms: usual phenomena of fever, with the head acutely pained; organ most affected, brain threatened; ordinary treatment, usual treatment; date and mode of bleeding, Dec. 31, V.S. ad  $\text{℥bi}$ . hirud. xii. ad temp. Jan. 6, hirud. viij. ad tempora; days sick, convalescent within the month; probable cause, contagion.”

In these seventy cases, the numbers of each kind are said to be as follows:—

Of simple typhus .....	23
Of ditto bordering on the inflammatory .....	11
Of subacute inflammatory typhus .....	12
Of acute ditto ditto .....	18
Of congestive typhus .....	2
Of anomalous ditto (apparently congestive) ..	4

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70

Fifty-two were bled by the lancet or by leeches, and six terminated fatally; in four of which latter, leeches only were applied; in the fifth also the bleeding was very inadequate; and in the sixth, only eight oz. were taken from the jugular vein, besides leeches.

Although this analysis of Mr. Sandwith’s book is so long, it does not give an adequate idea of its contents: we would therefore recommend our readers to study the details for themselves, and our younger ones especially, to take pattern by the accurate mode in which so many successive cases are recorded; and to recollect, that unless Mr. S. had been thus industrious, he could not have given that air of conclusive probability to his observations which has made his work valuable, and will raise his character much higher in the scale of reputation than it was before.

We do not mean to say that the book is faultless. With all his predilections for bleeding, we do not think, on looking over Mr. S.’s cases, that his practice was as energetic as they seemed to admit of; and indeed he says, that in the fatal cases too little was done. We think, also, that he has overlooked too much the great value of purging in

fevers. The work, too, contains errors of style, such as inconsistent metaphors, and a too enthusiastic diction; or we may say that it occasionally wants that chasteness of language which marks the polished man and the accomplished writer: but apparently Mr. S. has in him what may easily make him both; and if he will take up other subjects as ardently as he has taken up this, he will find, that his powers and faculties will increase by the very exercise of his talents, and he will thus at once afford much instruction to his fellow Practitioners, and, what is much more important to him — teach himself.

## II.

*Cases illustrative of the Treatment of Obstructions in the Urethra, &c. by the new Instrument, the Dilator; with further Directions, to facilitate its General Adoption: also, a Case of the Extraction of Stone from the Male Bladder without cutting it, by the Dilator; with an Account of Improvements of the Method of Dissolving Stone by Injection, and of the Common Operations of Lithotomy.* By JAMES ARNOTT, Member of the Royal College of Surgeons in London. 8vo. pp. 119. Longman and Co.

MR. ARNOTT'S Treatise on the Dilator has already been noticed in the REPOSITORY. Our readers will recollect that we expressed some degree of scepticism with regard to the applicable powers of the proposed instrument for overcoming urethral stricture. In the present tract, however, we meet with a record of cases illustrative of its utility, which induces us to recommend to Surgeons an investigation, at least, of its merits, before they condemn its introduction into practice, as a something that sounds better in description than it would be likely to prove upon trial.

We cannot, without the assistance of an accompanying delineation, give a very precise notion of the mode in which the dilator is constructed; but its principle is that of producing an extension of parts in those portions only of the canal of the urethra in which such extension is required, leaving the sound parts of the organ uninterfered with. The action of all dilating instruments hitherto proposed being that of a wedge, they have, we are told by Mr. Arnott, four radical defects. In the first place, the urethra is often pierced by the instrument before or behind the stricture, and thereby hæmorrhage, false passage, and urinary abscess are occasioned; or, "which is productive of similar effects, the stricture is torn from its situation, and carried forward on the instrument."

Secondly, much unnecessary pain and irritation are occasioned by the friction of the instrument upon the tender parts. Thirdly, the orifice of the urethra being smaller than other portions of the canal, an instrument equal to the wants of a deep-seated stricture cannot be readily introduced: and, fourthly, "an unchangeable instrument cannot act equally on the whole of a long stricture, or on several co-existent, at once."

"The *dilator*, on the other hand, will be found to be free from all these defects. It consists of a strong, air-tight, membranous tube, as of oiled silk lined with thin gut, about an inch and a half in length, which is introduced into the stricture in its empty or collapsed state, and is then filled to the necessary degree of pressure, with air or water, from a syringe without; and is again emptied before being withdrawn. The dilator, while opening the stricture, remains precisely in the same position within it; so that however strongly its action may be required or exerted, even when an old stricture is completely opened by it at one application, it cannot possibly, like bougies, either pierce the urethra or tear it. As it is introduced in its shrunk or collapsed state, no painful or injurious friction is then occasioned; and, from its being changeable in dimensions, it will enter an urethra with the narrowest orifice, and still dilate a contraction in any part, to the natural size, or beyond that if necessary, without stretching, like the bougie, the whole canal anterior to it. For the same reason the dilator acts equally on the whole of a long stricture, or on several strictures at once."

Mr. Arnott states, that Surgeons of this country have not sufficiently recognized the different requirements of the long and short species of stricture, simple dilatation being with us the principal object in view; while the French Practitioners look more to the excitement of a new action, and the formation of the ulcerative process. "Each plan," he says, "is best adapted to its particular case; the momentary dilatation to the short stricture, the continued, generally to that occupying some extent of the canal; but as there was till lately no perfect means of distinguishing these varieties of stricture in practice, the plan of short dilatation, as being generally the appropriate kind, appears to have been the best, producing equal advantage with the other, without the increased trouble and irritation." He informs us further, "that in conducting the cure of long strictures from thickening of the urethra, the dilator may be used repeatedly, keeping up a gentle pressure for a considerable time each application; or, if the patient's mode of life or circumstances will permit it, the canal may be so distended by one sufficiently continued application of the elastic dilator, as to admit a flexible catheter of the largest size, which will remain in the urethra to continue the distention till the obstructing matter is absorbed."

Mr. Arnott's cases illustrative of the advantages of the dilator are nine: the first of deep-seated chronic stricture; the second of hard unyielding stricture, incurable by the gentle action of the bougie; the third is a common case of stricture, treated by the quick action of the dilator; the next, one occupying a considerable extent of the canal; the fifth is an example of periodical relief from the dilator, in a case of long stricture from a thickening or tumour of the urethra; the sixth, a very irritable stricture, treated by the quick distention of the dilator; seventh, a stricture, impassable to the ordinary instruments of dilatation, cured by the dilator; the last of the urethral affections is one of diseased prostate gland, complicated with stricture; and the ninth case is one of stricture of the rectum, cured by the dilator.

We extract the two last cases, with the author's remarks:—

*“Diseased Prostate Gland, complicated with Stricture, relieved by the Dilator.”*

“In this case, the patient, who was upwards of sixty years of age, had been affected for twenty-eight months with frequency in urining, discharge from the urethra, and general irritability. For some time these symptoms had been partly relieved by passing a catheter several times a day into the bladder, for the purpose of drawing off the urine, as it could not be all naturally evacuated. This operation he performed latterly for himself, but with considerable difficulty, as the small elastic catheter employed was much obstructed in its passage, both by the remains of a stricture at six inches and a half, which he had been troubled with during many years of his life, and farther on, by a changed state of the prostate gland. The prostate gland had been examined from the rectum, and was found to be considerably enlarged.

“I opened the stricture in the urethra to the proper degree, by three continued applications of the dilator, during which, the little sensibility of the parts admitted of considerable pressure. I next passed on the dilator to the prostate gland; and after five applications, the instrument continuing each time above an hour in the part, I could distend one third of the average size of the urethra, without giving uneasiness. After this, a large catheter could be passed into the bladder without difficulty, and, as little irritation was now induced by it, the desire to make water became much less frequent, and the general health improved.

“In the above case, which is one of the more ordinary instances of diseased prostate, besides the general swelling of the gland, the middle part probably projected into the bladder, and prevented, as a valve, the expulsion of the urine. When this modification of the disease has existed long, there can be little hope entertained of a complete cure; but in the beginning, the application of remedies suited to reduce the irritation may be successful. Nothing is more beneficial than regularly drawing off the urine by a flexible catheter, of

such a size as will not be apt to meet impediment in its passage. The dilator, therefore, as enabling the patient or Surgeon to pass a large catheter easily for this purpose, will contribute greatly to the cure. I have not as yet, however, had much opportunity of seeing this particular affection of the gland in its first stages; but to several advanced cases, where the enlargement of the gland was unattended with great irritability, I have given relief, as in the above instance. Chronical obstructions to the urine may occur, too, from other affections of this part; which, however, I conceive, may be generally removed by sufficient dilatation.

*" Stricture of the Rectum, cured by the Dilator.*

" As gentle dilatation is the essential remedy for this disease, and is effectual in every case of simple stricture, where the irritability will allow of its use, the detail of the following case, which was the first in which the dilator was employed, will be sufficient to illustrate the practice.

" We have already seen the injurious consequences of the friction of a bougie, and similar means, upon a tender stricture of the urethra; but in the disease now under consideration, from the different nature of the parts concerned, this friction and irritation is still more hurtful. Hence it has arisen, that many strictures of the rectum, from the imperfection of the means employed for dilating, have been left unremedied, or only such temporary relief has been given, as opiates, fomentations, &c., are capable of affording; and, even in those cured, much unnecessary pain and irritation has been produced. The dilator, which is introduced within the stricture, and again extracted in a soft, pliable, collapsed state, which can act equally on any length of obstruction, which may carry the dilatation to any extent without ever, at the same time, keeping the frequently irritable sphincter of the gut distended, is obviously far preferable to any other means that has been employed for the same purpose. These advantages were immediately perceived by the Profession, and many quickly availed themselves of them. I have only to regret that the difficulty hitherto of procuring the perfect instrument has caused occasional disappointment, and prevented the universal adoption of the practice\*.

" From the little additional irritation of the parts caused by the use of the dilator, considerable relief may be given even in cases where the stricture depends on a malignant schirrous affection of the bowel. In the following case, treated by the dilator, the bougie could not be employed with effect, owing to the great irritation caused by its friction.

" Mr. —, of a very delicate reduced habit, is affected with very frequent desire to go to stool, when he voids, with pain and straining, a small quantity of feces, of a worm-like form, mixed generally with mucus. Distressing tenesmus follows every stool, and he has flatulency, frequent nausea, and want of appetite. He requires,

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\* The author mentions the name of Mr. Ironside, No. 7, Philpot Lane, Fenchurch Street, as a person from whom the dilator may be procured.

in general, to take a powerful opiate to procure rest in the night, the constipating effects of which he prevents or removes by frequent doses of castor oil. His attention was first drawn to the disease of the rectum, about two years ago, by the appearance of hæmorrhoidal tumours at the verge of the anus, which were removed; but the Surgeon in attendance deeming that they were not the only cause of the generally disordered state of health, examined the interior of the rectum, and discovered a stricture about three inches from the anus: this admitted a small bougie, yet almost as large as what the patient can now make use of, but the operation of passing it was always so painful, and was followed by so much irritation, that he was obliged soon afterwards to intermit it for weeks. He has since occasionally used it, though with very little success, to the present time. The gut, to the feeling, appears to be pretty regularly constricted; and, upon examining the canal, by means of the dilator sound, I found no other stricture within reach, and that this one, within three inches of the anus, occupied no great length of the passage. — I introduced a rectum dilator, measuring, when inflated, two-thirds of an inch in diameter, and, comparatively with the bougie he had formerly employed, it went very easily. I inflated it as much as the patient's feelings would allow of. After fifteen minutes, the air was allowed to escape and the instrument was extracted.

“ On my third visit, I substituted a dilator of the same size with that formerly used, but differing from it in having a portion of membranous tube between the metallic cannula and cock. This prevented the jerking of the instrument on the irritable part, while turning the cock, which, in some degree, occurred on the last occasion, and produced inconvenience. As there was little irritation from the last application of the dilator, I made the same degree of pressure to-day, but could not continue it for the same length of time in consequence of an urgent desire to go to stool, which came on.—A watery solution of opium was prescribed to be injected into the rectum.

“ 5th, 9th, and 12th days.—The dilatation was repeated on these days, but it proceeds very slowly, as the irritation of the parts prevents any considerable degree of pressure. On the 9th day the dilator was retained in the passage for nearly half an hour. The parts now admit of more air being injected than at first, but there is as yet no sensible difference in the circumstances connected with the evacuation of the fæces. The instrument is retained in the parts by a T bandage.

20th day.—The dilator has been used four times since last report, with increasing ease. The general health is not quite so disordered as formerly, nor does he experience the same degree of uneasiness on going to stool. In the beginning of the week two days elapsed without his having a motion, a circumstance very uncommon with him; and during this period the flatulency and swelling of the belly were particularly troublesome. This state was removed by a dose or two of castor oil, and his appetite has improved. I employed to-day a dilator of nearly an inch in diameter.

" 28th day.—As the dilatation proceeds it becomes more quickly effected, and with less suffering to the patient. The irritation of the rectum has now so far subsided as to permit of the patient's introducing the dilator easily himself. He has employed the inch dilator, but cannot yet fully distend it. He can retain it in the rectum about an hour at bed-time. His bowels are getting much more regular, and the stæces, when consistent, are large in form.

" 39th day.—The patient is now using an inch dilator, and can retain it for two hours at a time. He is in all respects better.

" Six weeks after commencing the use of the dilator, I left off my attendance on this gentleman; at which time, as the contraction was removed, and his bowels had greatly recovered their natural functions, he was about to leave town for one of the watering-places. He took an instrument with him for the purpose of using it occasionally, and as I have never again heard from him, I conclude that he is well."

Mr. Arnott concludes his pamphlet by a few remarks on stone in the bladder, in which he proposes some new securities against several of the dangers attendant upon the different operations, gives a description of a new method of injecting for the solution of stone, and relates a case in which a calculus was extracted by means of the dilator, without cutting the bladder.

The method which our author proposes for accomplishing the injection into the bladder of a solvent is the following:—An instrument, called the *double catheter*, is to be employed, which may be constructed either of metal or elastic gum. "When of metal, it is formed by running a partition along a common catheter, so as to divide it into two channels, which open near its point, by distinct holes of the usual size. By one of these channels liquid may be passing into the bladder while it is again escaping, mixed with the urine, by the other. When of elastic gum, it is formed by inserting a small catheter into a larger one, and using the first for the injection of the fluid, while the latter allows it again to run off. In either construction separate flexible tubes must be attached to the outer extremities of the divisions, or catheters, as prolongations of these; one to connect the catheter with the reservoir from which the fluid is to enter by it, the other to carry off the waste fluid and urine to a fit receptacle."

Mr. A. tells us that he has had ample experience of the use of the above instrument (a sketch of which he gives in his tract) in relieving irritability of the bladder; but with regard to the solution of stone through its agency, he has not yet made the experiment in the living body. He suggests a still further and more speedy process of effecting this last object, which however, he confesses, would require, on the part of the operator, more than ordinary dexterity, to prevent injury. "Through a large open-ended tube, or catheter, already

introduced into the bladder, two long wires, connected by a hinge at their points, may be passed, which have been so prepared, as that a certain length of them, on protruding from the end of the catheter, shall, by elasticity, open and form a circle."—"These wires, in expanding, as described, may be made to open the mouth of a bag or pouch attached to them, which had been wrapped round them during their introduction; and an expert operator would not then find it difficult to catch and place the stone in such a bag."

We are not, it is to be hoped, disinclined to the encouragement of ingenuity in the devising and application of means for relieving suffering, and obviating the necessity of formidable operations; but we must confess, that these proposals of our author for injecting the bladder seem to us to be rather too much in the *Darwinian* manner.

Mr. A. is inclined to think that the high operation of lithotomy might, in many more cases than the Surgeons of this country admit, supersede the necessity of the lateral one. But into this question we cannot at present again enter.

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### PART III.

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#### SELECTIONS.

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*An Analysis of the Root of the Rheum Palmatum, or Rhubarb.*

By W. T. BRANDE, S. R. S., &c.

(From the Quarterly Journal of Science and Art.)

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1. THERE appears to have been no chemical investigation into the nature of rhubarb, if we except a few experiments upon it given in Neumann's Chemistry, where it is stated that a great portion of it is soluble in water, and that alcohol scarcely acts upon the residue. Neumann got from four hundred and eighty grains one hundred and eighty of alcoholic, and afterwards one hundred and seventy of watery extract; and inversely, three hundred and fifty watery, and only five of alcoholic extract.

2. In the following experiments the finest Russian rhubarb was used, free from decay, and distinctly streaked with white and red veins upon its cut surface: the former are chiefly gum, the latter contain the extractive and astringent principle, as may be shown by washing the surface with a dilute solution of iron, when the red streaks only are discoloured.

3. One hundred grains of rhubarb, digested in eight ounces

of boiling water, till cold, gave a yellow-brown infusion, which was tested by the following re-agents, and gave the annexed results :—

Acetate of lead .....	a copious yellow precipitate.
Subacetate of lead .....	a red precipitate.
Proto-muriate of tin .....	a copious yellow precipitate.
Proto-sulphate of iron ....	an olive-green precipitate.
Nitric acid .....	a brown precipitate.
Oxalic acid .....	no effect.
Infusion of galls .....	no effect.
Solution of gelatine .....	a copious brown precipitate.

4. It may be remarked, in respect to the above precipitates, that nearly the whole of the colouring matter was carried down by the acetate of lead, so as to leave the supernatant liquor almost colourless. The precipitate by nitric acid was most copious when a few drops of acid were added to the concentrated infusion; it had the character of resinous matter, and was probably altered extractive. It was again dissolved by nitric acid added in excess. The precipitate by gelatine was most copious in the cold infusion; it scarcely formed in the hot infusion, and was re-dissolved by adding excess of the solution of isinglass.

5. One hundred grains of the bruised root were digested repeatedly in fresh portions of alcohol, (specific gravity 8.15,) till it exerted no further action, and came off perfectly colourless. The residue weighed, when dried at  $212^{\circ}$ , 55.8 grains; it was insipid, and when put into water it softened, and gave by long digestion a viscid solution. When subsequently dried, it was found to have lost thirty-one grains, which, obtained by evaporation, had all the characters of gum; it was insoluble in alcohol, and did not affect solution of iodine.

6. The alcoholic solution was of a deep yellow colour, and had a peculiarly nauseous taste; it was concentrated by distillation, and carefully evaporated to dryness: it left a brown residue weighing thirty-six grains, which being triturated with cold distilled water, and poured upon a filter, was resolved into ten grains of insoluble resin and twenty-six grains of soluble matter.

7. The resin, amounting to ten grains, was of a brown colour, gave out an aromatic odour when burnt, and entirely dissolved in sulphuric ether.

8. The twenty-six grains of matter, soluble in water, were obtained by evaporation, and afforded, upon being re-dissolved, a clear brown aqueous solution, which rendered solution of isinglass turbid, blackened solution of iron, and formed a copious precipitate with acetate of lead: this residue, therefore, was chiefly extract and tan.

9. From the above experiments it appears, that one hundred parts of rhubarb contain

Gum .....	31.	} 55.8 grains (5)
Wood and insoluble residue	24.8	
Resin .....	10.	} 36. (6)
Extractive and tan .....	26.	
	91.8	
Loss .....	8.2	
	100.	

10. The loss in the above experiments may be ascribed to water; for upon drying rhubarb by long exposure to heat a little above  $212^{\circ}$ , the average loss of several samples was *ten per cent.*

11. One hundred grains of rhubarb were put into a small retort, and distilled by a heat gradually raised to redness. Water at first passed off, succeeded by a yellow vapour, which condensed in the neck of the retort into a thick oil, and an acid liquor passed into the receiver, which blackened permuriate of iron. Forty-one grains of charcoal remained in the retort, which were reduced to powder, digested in dilute muriatic acid, washed, and dried at a red heat in a close vessel. They lost in this process 6.5 grains.

12. The muriatic solution, on being saturated with pure ammonia, let fall two grains of a substance having the characters of phosphate of lime. This was separated by filtration, and carbonate of ammonia added to the filtered liquor gave a farther precipitate, which, collected and dried, was found to be 4.2 grains of carbonate of lime.

13. The results, then, of the destructive distillation of rhubarb may be stated as follows:—

Water .....	10.
Empyreumatic oil, gallic acid, and water } formed .....	49.
Charcoal .....	34.5
Phosphate of lime .....	2.
Carbonate of lime .....	4.2
Loss .....	3
	100.0

14. To ascertain in what state the 4.2 grains of carbonate of lime had existed in the root, before its destruction by fire, one hundred grains of rhubarb were deprived of all soluble matter by the action of alcohol and water; these solutions were evaporated, and the residue submitted to a red heat in

an open platinum crucible burnt away, leaving no appreciable portion of earthy alkaline or saline matter, a small trace of common salt and of lime excepted. The insoluble woody fibre was digested in muriatic acid, and the solution saturated by ammonia: it gave a precipitate weighing 8.5 grains, from which, by the action of sulphuric acid, a portion of malic acid was separated. If this precipitate, therefore, be regarded as composed of phosphate and malate of lime, it would consist of

	grains.	
Phosphate of lime .....	2.	(12)
Malate of lime .....	6.5	
	<hr/>	
	8.5	

15. The component parts of rhubarb, therefore, would appear, from the whole of the preceding data, to be as follow:—

Water.....	8.2	(10)
Gum .....	31.0	(5)
Resin .....	10.0	(7)
Extract tan and gallic acid .....	26.0	(8)
Phosphate of lime .....	2.	(12)
Malate of lime .....	6.5	(14)
Woody fibre .....	16.3	(5)
	<hr/>	
	100.0	

16. The very copious precipitate obtained by adding solution of acetate of lead to infusion of rhubarb, induced me to hope that some peculiar principle might be found in it, combined with the metallic oxide; I therefore collected a quantity of the compound, diffused it in water, and passed sulphuretted hydrogen through the mixture, which was afterwards boiled, filtered, and evaporated to dryness: a brown viscid substance, of a peculiar smell, and somewhat acid flavour, remained, which I was at first inclined to regard as some distinct principle; but a few experiments soon taught me that it was merely a mixture of extractive matter with a little sulphuric acid.

17. The activity of rhubarb, as a medicine, appears to reside entirely in those principles which are soluble in alcohol; the alcoholic extract was found a drastic purge, and the resin, in its pure form, also proved aperient; while the gum obtained from the residue, insoluble in alcohol (5), was perfectly inert, and did not possess any peculiar medicinal qualities.

*Experiments and Remarks, illustrating the Influence of the Eighth Pair of Nerves over the Organs of Respiration and Digestion.* By S. D. BROUGHTON, Member of the Royal College of Surgeons, one of the Surgeons to the St. George's and St. James's Dispensary, and to his Majesty's Second Regiment of Life Guards.

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AN attempt having been made to show that galvanism is equal to the influence of the nervous system over the important functions of respiration and digestion, in restoring these functions when they become interrupted or entirely suspended, by dividing the eighth pair of nerves in the neck of an animal; the Royal Society appointed some of its members, conversant with physiological pursuits, to investigate the grounds upon which this opinion is built. The report made relative to the point in question was, that no such power had been observed as that attributed to galvanism by the theory above mentioned. In order to satisfy myself as to the cause of such opposite conclusions, and, if possible, to ascertain the truth, I instituted a series of experiments, the result of which I am about to detail. In order, however, to bring this subject fairly into view, a short abstract of the experience and opinions of our ancestors and of our cotemporaries appears requisite.

So early as the time of Rufus and Galen, the attention of Physicians was directed to a large nerve on each side of the windpipe, in a great proportion of animals, passing from the brain down the neck, and distributing branches to the thoracic and abdominal viscera; and experiments were occasionally made by fastening ligatures upon this nerve, to which the ancients gave the name of *par vagum* from its general distribution; and, it was also at times divided on each side of the neck, for the purpose of observing the effects of these nerves upon the organs they supply.

Similar experiments have been subsequently repeated to the present day, and varied agreeably to the views of those engaged in the pursuit. The ultimate fatality of the operation of dividing the eighth pair of nerves is generally noticed. All else that can be collected from Rufus and Galen is, that the animal loses its voice. The cause of death in animals submitted to this experiment was by many attributed to the disturbance and cessation of the heart's motions, directly produced by the division of the nerve. Willis and others maintained this notion, whilst some, who also repeated the experiment, were of a contrary opinion, observing, that if this explanation were true, animals could not live so long as they are

known to do after the operation; while others attributed the death of animals to inanition, from their being unable to eat. Valsalva remarked frequent efforts to vomit, and subsequent derangement of the digestive functions, and that food filled the œsophagus, and the mouth was covered with foam tinged with blood. Hence he concluded that blood-vessels were ruptured by the efforts to vomit, and that the animals died of hæmorrhage. Some noticed similar appearances, but attributed them to congestion of the lungs, which stopping the circulation killed the animal. Haller also divided the par vagum, and noticed the dyspnoea consequent to the operation. He adds, that the digestive powers fail, and the contents of the stomach become putrid. Cruickshanks and others observed the congestion of the lungs, and supposed it to be the cause of death. Bichat frequently performed the experiment, in order to discover the cause of its fatal tendency, with the view of illustrating the influence of the nerves on the thoracic and abdominal viscera. The respiration, he observes, becomes laborious, and continues so incessantly till the animal dies, and he refers the cause of death to the difficulty of breathing. Subsequent French physiologists referred the cause of death to a state of asphyxia, following the division of the par vagum.

Dupuytren says, that the asphyxia is produced by the atmospheric air not being capable of uniting with the blood of the lungs, a phenomenon which he states to belong to life exclusively, and to depend on the influence of the brain. We know, however, that blood will mingle with atmospheric air out of its vessels, and become converted to a bright crimson. Another objection to his doctrine is, that, were asphyxia the direct cause of death, the animal ought to die as quickly as if drowned or strangled. Blanville agrees with Haller in attributing death to the impediment to the functions of digestion. Prevencal attributed it to asphyxia, brought on by a diminution of oxygen gas, and a consequent deficient development of carbonic acid, from the interrupted breathing, by which the temperature of the animal is reduced. In dogs he found the lungs red and gorged with blood, but in pigs and rabbits no such appearance was noticed. The asphyxia, therefore, he concludes, does not take place immediately, but at a certain point, and then increases till death.

Such has been the vague and unsatisfactory information upon this subject, till Le Gallois engaged in these inquiries, to guide him in his treatise on the principles of life. He performed the experiment of dividing the eighth pair of nerves in numerous animals, varying in age and species, so as to ascertain the influence which such variations held over the

different symptoms and phenomena that follow the division of the par vagum.

The result of his experiments is recorded with care and accuracy, and the following circumstances form the leading features of his experience which bear upon the present subject. His chief care was to ascertain the immediate cause of the death of animals after the division of the nerves; and finding, with his predecessors, that the *heart*, the *lungs*, and the *stomach*, were all disordered by the operation, he endeavoured to make out which was the seat of those symptoms that induced death; and he found it to exist in the *lungs*. His next object was to ascertain in what manner the lungs became affected, as they are found to be after the operation. From several experiments on young rabbits, pigs, cats, and dogs, Le Gallois was induced to come to this conclusion—that, in dividing the eighth pair of nerves, the *recurrents* being also cut off, the muscles moving the larynx become paralyzed, the *glottis* is closed, and the access of the air to the lungs is impeded. He divided the *recurrents* alone, and the same phenomena presented themselves as when the par vagum was divided. It is added, on the authority of the same author, that by dividing the recurrent on one side only he paralyzed one side of the larynx, and also that the aperture of the windpipe became entirely immoveable after dividing both the *recurrents*. In order to prove this point, he cut a piece out of the windpipe, and immediately, he says, the breathing became free, and the dark colour of the arterial blood was converted to a bright crimson; and animals on which this opening was practised, lived longer than those on which no opening of the trachea was made; and he likewise observed, that the division of the nerves affected at the same time the *larynx*, the *heart*, the *lungs*, and the *alimentary canal*.

The combination of phenomena he attributes to the division of the par vagum, from its supplying such important viscera, and which may, therefore, be supposed to aggravate the symptoms accordingly.

He refers the loss of voice, in those animals of which Galen and others speak, to the same principle as that of the dyspnoea, i.e., the cutting off of the communication between the brain and the organs of voice, by dividing the *recurrents*. He noticed, in performing these experiments upon different species of animals, and of different ages, that the comparative severity of the dyspnoea differed one from the other. In very young animals it was more severe than in older, and one species seemed to be more violently affected than another; which he explains by remarking, that the

aperture of the larynx is narrower in young animals than in adults, and that this opening varies in its dimensions in different kinds of animals compared with each other. The affection of the heart he found more difficult to determine; but he seems to think that the dyspnoea and the want of fulness in the arteries, from the imperfect oxygenation of the blood checking the circulation, is altogether sufficient to account for the heart's action after the division of the eighth pair of nerves. The affection of the lungs he refers to the severe dyspnoea occasioned by the paralysis of the larynx. He found them always in a state of greater or less congestion, and the bronchiæ full of fluid.

The state of the stomach, he observed, varied in its appearance in different animals, and even in the same species of animals; but *he did not generally notice any indication of the digestive process being arrested*. Whatever might be the state of the stomach, he attributes it altogether to the disturbance of the functions of the respiratory organs. Le Gallois appears satisfied as to the *immediate cause* of death being entirely referrible to the *lungs*, through which the circulation becomes stopped in three ways: 1, by the diminution in the opening of the glottis; 2, by the congestion in the lungs; 3, by the extravasation of fluid into the bronchiæ: and that these effects vary according to the age, size, and species of the animal. Of thirty-one rabbits operated upon, from one to forty days old, they died between six and eighteen hours and a half.

Majendie, in his elements of physiology, treating of respiration, remarks, that as the eighth pair are the only cerebral nerves which supply the substance of the lungs, many physiologists have been induced to divide them, and that this operation was frequent amongst the ancient Physicians, but much less so with the moderns. And, in all cases, he says, the animals have not survived more than three or four days, and that this death has been attributed by different authors to a cessation of the heart's motion, a deficient digestion, inflammation of the lungs, and so on, as already noticed. He cites the experiments of his countrymen, and especially notices the loss of voice by the division of the recurrent nerve, and the same consequence from that of the par vagum; and also the observations of Le Gallois relative to the effect upon the glottis of dividing either or both of these nerves, which is that already quoted, of diminishing its aperture, and thereby obstructing the free entrance and exit of the air into the lungs, so as to produce difficulty of breathing, congestion, the general disturbance of the functions of respiration and digestion, and death. Majendie adopts the opinions of Le Gallois; and difficult as

the explanation of the phenomena may appear at first sight, he thinks them readily explained, considering the manner in which the recurrent nerves are distributed to the muscles of the larynx. If he says, the division of the nerves be made low down in the neck, the muscles which dilate the glottis become paralyzed, while the constrictor muscles which are supplied from the superior laryngeal retain their action, and close the glottis more or less completely. In such cases as these, in which life is more protracted than usual, he supposes the division to fail in bringing on the closure of the glottis, and inducing the other phenomena gradually, instead of speedily, putting an end to life by the train of symptoms before noticed, creating difficulty of breathing, and a consequent failure of the proper oxygenation of the blood. Majendie says nothing of his own immediate experience as to the effects upon the digestive organs; but, as a collateral circumstance, the assumed fact of the diminution of the glottis, by dividing the par vagum, seems worthy of observation, especially as it does not appear to be very satisfactorily demonstrated.

Amongst our own countrymen, the experiments of Dr. Haighton, though not conducted with any reference to my present objects, afford an interesting view of the effects upon animal life resulting from a division of the eighth pair of nerves; especially as his experiments were varied in the mode of performing them from any hitherto noticed. He observed considerable uneasiness about the organs of respiration and the stomach, with trembling of the whole body, that lasted from the time of dividing the nerves in the neck of a dog till its death, which in one instance occurred in eight hours, in another in two days, and in a third in three days. In all his experiments the voice of the animal was lost. No account of the appearance of the food in the stomach after death is given, nor whether the dogs which survived longer than usual had any interval of health. Dr. H. found that the division of one nerve only produced no symptoms whatever, and that the animal fed as usual and thrived. But when he, at subsequent periods, divided the other nerve, the usual symptoms came on in different degrees of severity; and the animal survived the operation longer than when both nerves were divided at once. Thus, after dividing one nerve alone, and its fellow on the third day, the dog died on the fourth day. After waiting nine days between the divisions, another dog lived thirteen days. Also, after an interval of six weeks between the divisions, a dog recovered entirely. Nineteen months afterwards both nerves were again divided at once, and the animal died on the second day of the usual symptoms. Dr. H. remarked the stomach to be more or less affected in

all cases; and that dog, which survived after the operation had been performed, allowing an interval of six weeks between the divisions of the nerve singly, was six months in recovering his condition, although he fed as usual after the expiration of one month.

Dr. H. accounts for a total loss of vital functions not directly following the division of the eighth pair of nerves, by observing, that the stomach is supplied with branches also from the great sympathetic nerve, by which the functions of this viscus are sustained, though imperfectly; while the recovery of his dog, which was allowed to live six weeks between the separation of each nerve, must be attributed, he says, either to an anastomosis of nervous filaments (similar to that of the arterial system), or to a reproduction of nervous matter itself in the divided nerve; thus gradually restoring the perfect performance of the stomach's functions, previously impeded by cutting asunder the par vagum on each side at a certain interval between the division of each branch, so as to allow time for the requisite reparation in one before the other is divided. The foregoing statements serve to convey a general notion of the discoveries and different opinions relative to the use and influence of the par vagum in the animal economy; and, however varied the explanations may appear, they all tend to confirm one indisputable fact; that the eighth pair of nerves occupies so important a communication between the viscera, which it supplies, and the brain, that by dividing these nerves a very material derangement of the functions of life ensues, altogether sufficient to put a stop to their existence.

*(To be continued.)*

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## PART IV.

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# FOREIGN MEDICAL SCIENCE AND LITERATURE.

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[By some mischance our foreign packet has not arrived this month; for which we have waited to the very last minute. The following hurried translation is presented for the purpose of keeping the department filled up. From the same cause we have been obliged to postpone the review of the College Transactions, intended for the present Number. — D. U.]

*Letter from* **BARON LARREY**, *Surgeon-in-Chief of the Hospital of the Royal Gard, to the Conductor of the Revue Médicale.*

*Paris, November 1, 1820.*

"BEFORE I had seen the memoir of Dr. Nicod on *Fistula Lachrymalis*, which was inserted in the first and second

Numbers of the *Revue Médicale*, and indeed many years since, I had abandoned the usual mode of operating for lachrymal swelling or fistula; and I had even publicly condemned these operations as inefficacious, unless previous care be taken to counteract the disordered tendency in the habit by which fistulous affections are engendered and maintained. My pupils in clinical surgery have often heard me express such an opinion in reference to the maladies in question; and I have frequently directed their attention to those counteractives to which I allude, and to the injections of detersive fluids into the lachrymal passages. This treatment has repeatedly been productive of such decided and radical benefit in many of the military men that have fallen under my care, that without any operation they have been enabled to resume their services in the army, and continue them without further interruption.

"Previously to the publication of Dr. Nicod, I had not attached any particular importance to these instructions regarding fistula; but the perusal of his memoir has excited me to further attention to and reflection on the subject.

"The more I consider the character and phenomena of the disorders in question, the more am I convinced, that both the tumour and the fistulous sore are none other than a consequence resulting from a morbid action in the mucous membrane lining the lachrymal passages\*. The indications of cure are obviously, therefore, to endeavour at combating this disordered condition of the membrane; and the complaint will then either cease spontaneously, or demand much less of local application in order to complete the cure.

"The same remark applies to fistulous affections, which, from their locality, implicate the teeth in such sort, that we often witness ineffectual trials of cicatrizing or healing malar wounds, until a tooth be extracted, and the disorder will then disappear as from a charm. The following cases will serve to illustrate the above position.—

"M. de B\*\*\* was the subject of an abscess which recurred periodically in the centre of the palatine arch. The opening of this abscess was followed by a fistulous sore, which only healed over to recur again and again. He had tried many applications for the purpose of thoroughly healing it, but all without effect; I therefore, contrary to the opinion of many of his medical advisers, suggested the extraction of the superior right lateral incisor, the appearance

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\* I, of course, except those instances which are the results of a mechanic cause, which, however, are comparatively rare, and not very easily cognizable.

of which indicated the direction of the abscess towards this point.

“ The patient had never complained of pain in this tooth ; and, with the exception of the above-mentioned slight alteration in colour, the organ did not in any way appear implicated in the business. When extracted, however, there was an appearance of necrosis at its root. Mr. B. was immediately benefited by the extraction ; and in the course of a few days the sore was spontaneously and perfectly healed ; and it has never returned.

An English gentleman consulted me, in the spring of 1818, for a fistulous sore in his left cheek, about the centre of the massetic muscle, which had existed for several years. He had applied to several Surgeons in London, who, conceiving that the seat of the disorder was in the salivary duct, had tried ineffectually incision, seton, and cautery. This last application had since been recommended by a Parisian Surgeon whom he had consulted. Upon examining attentively the cause of the fistula, with a flexible stilette, I found that it was directed towards the root of the third molares tooth of the inferior maxilla ; and I was convinced, by this circumstance, and by having witnessed several other affections of the like kind, that a partial necrosis, or caries of this same tooth was the source of all the mischief, notwithstanding that the tooth itself did not show any exterior indications of being implicated. I advised its extraction, which appeared to my patient an extraordinary measure ; he, however, submitted to the operation, and from the fifth day of its being performed he found, to his great surprise, that the fistulous ulcer had completely healed. He returned to London filled with joy and gratitude.

The third case I shall relate is that of a young lady of seventeen years. She had been affected with a fistulous sore at the fossa navicularis of the chin, which did not seem to have any connexion with the teeth. She had never been the subject of the slightest tooth-ache : I, however, introduced a stile, which evidently showed that the fistulous passage took its course towards the middle incisor tooth of the left side ; and a very close examination of this tooth showed, moreover, a slight change in its appearance. Many Surgeons had in vain essayed the cure, and cauterization was repeatedly tried without effect. I proposed the extraction of the above-mentioned tooth, which was consented to with reluctance, and in three days the cure of the disorder was complete. In this instance likewise the root of the tooth was somewhat carious.

But to resume the particular subject of *fistula lachrymalis*. I conceive that Dr. Nicod is fully justified in his asser-

tion, that these affections are for the most part curable without operation; and since they have, at different times, their origin from variolous, syphilitic, or scrofulous taint, I have ordered mercury, applied externally towards the angle of the eye, its internal exhibition, sudorifics, and bitters, according to the nature of the virus; and I have found, by such means, that several inveterate fistulas have disappeared among our soldiers. This practice, I have already stated, I had pursued with success long before the publication of Nicod's memoirs; and it may here be remarked, that both the ancients, and several writers of the preceding century, have advised the same course, particularly Louis and Foubert\*. This was especially insisted on by the Practitioners of Padua, in the fifteenth century.

Dr. Nicod has, however, the merit of having summoned the attention of his cotemporaries to this important principle in lachrymal complaints, and of having discouraged an indiscriminate recourse to operations frequently as unnecessary as they are painful; and I will now record two examples illustrative of the doctrine for which I am contending.

The subject of the first case I shall mention has been discharged from the hospital perfectly cured. His name is Louis Rigolet; he is twenty-three years of age, and corporal of the third regiment of the Royal Guard. When first I saw him, he had a large tumour under the corner of the left eye, which evidently proceeded from the small-pox, with which he was attacked in his childhood. Both tears and purulent matter could be squeezed out from the sac by pressure upon the swelling, which found their way as well by the puncta lachrymalia as by the nasal passage. Having promised mild evacuates, I set about the further treatment of the case, by sudorific syrup, with the addition of small doses of superoxygenated muriate of mercury, of sal-ammoniac, and opium, with gum (*opium gommeux*). He was ordered likewise a bitter ptisan, and mercurial frictions were applied over the angle of the eye. Injections were at the same time thrown through the lachrymal passage, formed of alkalized water, and applied by Anel's syringe. After about three months of this treatment the individual in question quitted the hospital perfectly cured.

The next case was likewise that of an inferior officer in the Guard, who had been affected for several years with a lachrymal tumour under the right eye, of the same character with that in the preceding instance. The same plan was put in force in this second example, and with the same happy result; for before the eighth month he was able to resume his military duties.

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\* See the Memoirs of the Royal Academy of Surgery.

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## PART V.

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# MEDICAL AND PHYSICAL INTELLIGENCE.

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In the City of London Lying-in Charity, for Delivering Poor Married Women at their own Houses, conducted by Mr. Greening, of Aldersgate Street, the number of applications during the last six months, from the beginning of June to the end of December, was one hundred and eighty; and the number of deliveries one hundred and sixty-two; of which there were natural labours, one hundred and forty-five, complex five, instrumental two, premature and abortions ten.

Of the complex labours, two were cases of twins, and two of prolapsus of the funis umbilicalis, in which the patients were delivered by turning; the other being accompanied with uterine hæmorrhage, from atony of the uterus after delivery; the hand was introduced to excite its action, when it was forcibly propelled out of that organ, and thus was a stop put to any further discharge of blood.

In one of the instrumental cases, the forceps were applied, the pains having ceased: the other required the use of the blunt hook, the breech of the child presenting, there being a deficiency of room at the outlet of the pelvis.

In one of the premature cases, as nearly as we could guess, labour came on at the seventh month; the child lived only six hours. Three of the applicants were recommended to the "*City of London Lying-in Hospital*," not having proper accommodations at their own houses.

*Case 1.*—An Irish woman, lodging in the neighbourhood of Saint Luke's, applied for a ticket in the month of November last, this being her eighth child: in her former labours, scarcely would time allow to send for medical aid before delivery was completed. The membranes had broken; a messenger was despatched to seek for attendance; the gentleman who had visited her previous to this request made all possible speed to the house. Upon entering the room, she was in an erect posture, having parted with the child, and after-burthen, which was upon the floor: hæmorrhage had ensued to a most violent degree. The husband was sent to summon my attendance upon his wife, who was then in a dangerous situation. By the time I arrived she was lying upon the bed, the flooding still continuing. Upon my examination *per vaginam*, a tumour presented itself low down in the vagina, which at once appeared to me to be nothing less than an inverted uterus; vomiting had commenced, which still confirmed this opinion. A reduction was the only chance to save her life, which was effected in a slow and cautious manner; this being accomplished, the hand was retained, the abdomen was rubbed by an assistant till contraction of the uterus took place; the discharge of blood immediately ceased. Her situation became critical: quietude was urged as being indispensably necessary, with a total abstinence from fermented liquors of every description, which orders were strictly complied with. At my second visit, after a lapse of two hours, I found her situation very precarious; pulse feeble, pallid countenance, tongue dry and covered with a brown fur; every other symptom of which kept us in fear, whether nature would assist our efforts. A little red wine was given to her, not in quantity to excite alarm of fever, which alone seemed to add energy to the system. The ensuing morning I visited her, in attendance with the gentleman who was assisting me the night preceding: every thing now appeared favourable; pulse tranquil, but firm;

tongue moist, nearly clean; and the body bedewed with perspiration. From this time she continued hourly to improve, and at the end of two months was enabled to resume her daily employ.

*Case 2.*—I was sent for, by a medical Practitioner, some distance from town, to visit a patient, moving in the middle sphere of life, who had been delivered forty-eight hours before this request reached me. Every information being obtained from Mr. S., I proceeded to examination *per vaginam*, passing my hand slowly into the uterus in the form of a cone: a hard substance presented itself, which led me to suppose there was a second conception. Upon extraction, it proved to be a large mass of coagulated blood, occupying nearly the whole cavity of the uterus, which had kept up a constant irritation, ending in convulsions. During the time I was effecting its escape, the fits ceased, and remained as such for some time: probably an hour had elapsed: after the entire removal, it was minutely examined. I then left her bedchamber, and proceeded below stairs to converse with some of her friends, who were anxiously waiting to hear the result: at this crisis I considered it prudent to abstain from giving my opinion. Shortly afterwards the nurse came running to inform me, her mistress had fallen into another fit: my presence was again demanded. Upon entering the room, she was lying senseless upon the bed; the features of the face greatly distorted, every thing presenting a ghastly aspect. Twenty ounces of blood were immediately taken from the arm: relief in some degree was obtained: hopes were entertained of a recovery. As soon as she was enabled to swallow, an opening draught was administered, which operated quickly upon the bowels. She now began to call to mind those who were around her, and recognized one of the attendants. This continued but a short space of time; for the wildness of her eyes, and other symptoms, denoted that another fit was rapidly approaching. All our endeavours to prevent its recurrence were in vain. A third ensued, which continued upon her for three hours. Little hopes were entertained of her life. An enema was administered, consisting of *lac assafoetida*; venesection was repeated; but none of our measures, as yet, were crowned with success. I now requested a bunch of feathers to be tied together, immersed in cold water, and the face to be sprinkled from time to time: in about ten minutes this had the desired effect. In raising herself forward in the bed, being supported on each side by an attendant, looking round with a dismayed countenance, she asked for a little water, which was given to her, and drank with great eagerness. Continuing slowly to improve, the nurse was desired to request the attendance of her mother, who was waiting in the adjoining room. Tranquillity of mind appeared to be somewhat established: the opening draught was repeated. In about two hours afterwards I left, having resigned her to the care of the gentleman who attended her in labour; leaving particular request, if a recurrence of any alarming symptom should present itself, to let me know. Not having heard from Mr. S., we may conclude every thing ended well. Some time afterwards I called at her house; she was then removed into the country.

*Case 3.*—My attendance was required upon Mrs. M—, residing in Barbican. Seven days had elapsed since her lying-in. From that time to the period of her death a fever had prevailed, continuing its course in a slow degree. The symptoms presenting themselves at the bedside were, a vibrating pulse, under the finger, beating 120 in a minute; alternate changes from heat to cold, and *vice versa*; pressure upon the abdomen gave pain; bowels regular; she answered rationally to the questions put to her. Twelve ounces of blood were taken from the arm; fomentations ordered to the abdomen; an opening draught was given to her, which operated briskly upon the bowels. At five o'clock in the evening of the same day, her mother called to inform me her daughter was dead. Permission could not be obtained to open the body; I am therefore at a loss to give so full a description of this case as I could wish.

*Case 4.*—My presence was demanded upon a poor woman who had been delivered about fifteen minutes of a still-born child: she had received a ticket from this charity by the recommendation of the treasurer. The strenuous means recommended for this purpose were had recourse to: viz. warm bath; friction over various parts of the body, more particularly to the chest; brandy administered by the mouth and injected per anum: it survived fifty-two hours.

The number of children born were 164. Males, 79. Females, 85.

The foregoing report abounds with nothing novel in its nature; neither do I presume, at any time, to predominate this part of medical science. Still it will be considered a duty incumbent upon me, to transmit a description of every extraordinary case which may present itself to my notice connected with this one branch of the Profession.

It has been intimated before, that this report will be continued quarterly, the whole of which will be established upon facts: it must then be left to the reader to draw any conclusions he may think proper. Ere long I purpose collecting those cases now in my possession, and several others which have been transmitted to me by some friends, into a treatise, when a more elaborate detail will be annexed to each.

I propose receiving three gentlemen into the Institution. Their views will be greatly forwarded in the practical part of the obstetric art: all cases in the Charity which may occur out of the ordinary course of natural labour they will be apprized of. Further particulars may be known by applying at 159, Aldersgate Street.

January 1st, 1821.

THOMAS GREENING.

*Medical Prize Questions.*—1. The question proposed by the Cercle Médical of Paris, in 1819, not having been treated in a satisfactory manner, is again proposed for the next year:—it is “to determine the influence of pathological anatomy on the progress of medicine in general, and especially on the diagnosis and treatment of internal diseases.”

The society request the concurrents—1. To inquire whether or not pathological anatomy may, in its present state, give rise to applications and interpretations injurious to science.—2. To indicate the means which they believe to be the most proper to prevent these inconveniences: in a word, it engages them to take the sense of the word influence in its bad as well as in its good relations.”

The prize will be a medal of 300 francs' value. The memoirs, written in French or Latin, are to be sent before July, 1821, to M. C. D. Chardel, Secrétaire, &c. Rue Cassette, No. 26.

The following prize questions, among others, has been proposed by the Haerlem Philosophical Society. The papers are to be sent in before January 1, 1822:—

1. “How far is it actually demonstrated, that fumigation with chlorine gas has prevented the propagation of contagious disease? What are the contagious diseases in which it ought to be tried, and what ought to be principally observed in such experiments? Is there any reason to expect more salutary effects from any other method hitherto employed or proposed for this purpose?” It is requested that a succinct enumeration be given of the cases in which such fumigation has proved effectual in preventing various contagious diseases.

2. “How far does the physiology of the human body afford just grounds for supposing, or how far has experience satisfactorily proved, that oxygen gas is one of the most efficacious remedies for recovering persons who are drowned, suffocated, or in a syncope? And what are the most prompt and certain methods to be employed for this effect?”

3. “What is to be considered as justly proved with regard to the gastric

juice of the human body, and its influence on the digestion of food? Is its existence sufficiently proved by the experiments of Spallanzani and Senebier or is it rendered doubtful by those of Montegre? What has been demonstrated in this respect by comparative anatomy, and particularly by opening the stomachs of animals which have been killed either fasting or shortly after taking food? And supposing the existence of gastric juice in the human body to be well proved, what ought to be avoided in order that its effect on the digestion may not be impeded?"

4. "How far are we acquainted, from the chemical experiments of Vauquelin, with the various species of cinchona; likewise from the experiments and observations of others? 1. What is the different nature and quantity of their constituent parts? 2. To what particular principle ought we to ascribe the febrifuge powers of cinchona? 3. What criteria can we deduce from it, so as to distinguish the best species, and the various barks used as substitutes? 4. Are any rules to be obtained for preserving the principle, in which consists its febrifuge power, entire in the various preparations of cinchona?"

5. "Although a general introduction of vaccination has almost every where put a stop to the epidemic small-pox, yet within these few years past that disease has re-appeared, both here and elsewhere; and as a species of variolous pustules have recently shown themselves in those who have been vaccinated, it is inquired,—1. Of what description are these pustules? In what do they differ from the real small-pox? Is it the latter that is produced in these individuals who have been previously vaccinated? Does it arise from constitution, from indisposition, from the matter employed in vaccination, or from other circumstances, and what is the method of preventing it? 2. What can be safely asserted, with regard to the duration of the preservative virtue of vaccination? Would it prove of any service to revaccinate on the re-appearance of the disease? Are the methods employed by us for the encouragement of vaccination sufficient, and do they tend to cause the entire disappearance of the small-pox? In case they are not, what more efficacious ones could be adopted?"

6. "What is the cause owing to which oysters are occasionally so prejudicial to health? Is it in consequence of a small worm that is found in them? In this case, of what species is it, and whereabouts is it most easily detected? Are oysters subject to it only at certain times of the year? Has the venom of oysters any analogy with that which, from time to time, renders muscles poisonous and unwholesome? What are the disorders occasioned by such oysters and muscles, and what are the most efficacious remedies either for averting the evil or for removing it?"

7. "To what is it owing that shrimps are sometimes pernicious? How are such shrimps to be distinguished? What kind of disorders do they occasion, and what are the remedies to which, in such cases, recourse ought to be had?"

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TO THE EDITORS OF THE LONDON MEDICAL REPOSITORY.

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[In order to make the connexion of this article with the part that was printed in our last Number more intelligible, the three last paragraphs have been reprinted in this Number.]

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*Senna.*

Senna, as usually found, gives a powder of a dull yellow, with a green tinge, more or less dingy, as the quantity of charcoal and animal and other matter mixed with the senna, varies. The same senna dried at a high temperature, say one hundred and seventy degrees, appears when powdered, of a bright green, likewise varying in brilliancy as more or less free from extraneous matter: if a large proportion of charcoal and animal matter be

present, the colour will deepen to a French green. The small senna is always much encumbered with such matter\*.

The temperature of one hundred and seventy degrees neither destroys the flavour nor the purgative properties. If the leaves be macerated in successive changes of water, till the water cease to act, the powder obtained from these leaves is superior in brilliancy and permanence of colour, to the powder from leaves which have not been so macerated, provided the leaves be dried with sufficient care at the temperature of one hundred and seventy degrees.

Senna, macerated in successive portions of water, loses more than half its weight. The cold infusion is of a pale brown and the leaves become of a pale olive green.

Four hundred and eighty grains of Alexandrian senna (one ounce) were macerated in successive changes of water at the temperature of about sixty degrees, until the water ceased to act upon the leaves, which, when dried, exhibited a bright olive green and weighed four drams or two hundred and forty grains. These four drams, or two hundred and forty grains, were dried at the temperature of one hundred and seventy degrees, and when sub-pulverized, produced a powder of a light bottle green. This powder was boiled in four ounces and a half of alcohol and exposed to the boiling temperature for about ten minutes and was then immediately filtered. *The alcohol became deeply impregnated with the green colouring matter so as to be impervious to the rays of light.* The residual powder, when dried, had lost 56 grains, leaving two hundred and four grains of a dull pale drab colour.

These two hundred and four grains were diffused in three quarts of distilled water which became ropy, similar to a thick infusion of linseed, and slightly tinged. It was put into a filter and passed very slowly, requiring the addition of more water before the sub-powder could be separated from the mucilage.—Loss, when dried, forty-five grains, leaving one hundred and fifty-nine grains.

These one hundred and fifty-nine grains were diffused in one ounce and a half of liquor potassæ, which did not act upon it whilst cold. It was then boiled, and acquired a deep chocolate brown colour. With the addition of eight ounces of distilled water the colour was not reduced. On passing the filter, it stained it of a pinkish brown colour. The residuum was washed repeatedly with distilled water, and weighed, when dried, forty-five grains which appeared to be of a fibrous and reticular nature, or the mere mechanical remains of the leaf of the plant.

On driving off the alcohol by heat from the matter which it had taken up, until this matter became of the consistence of a thick extract, it exhibited a deep green, and when rubbed upon white paper, stained it of a brilliant green, which was again very much improved by the action of heat. Upon standing in the evaporating glass for some days, beautiful crystals of an uniform shape, and of considerable lustre, with a green tinge, were formed.

Senna, macerated in weak solutions of the pure alkalis, loses about half its weight. The solutions are of a bright purplish-red, in colour much resembling Port wine. The volatile alkali takes up the greatest proportion. Macerated in weak solutions of the alkaline carbonates and subcarbonates,

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\* This arises from the separation of the large from the small leaf, by means of the sieve, which passes most of the charcoal, animal matter, and other impurities, with the *small* leaf. At the same time the extremities of the large leaves, in which I have ascertained much of the colouring matter of the leaf to reside, also pass through the sieve, and admix with the smaller leaf. The small senna, therefore, *if well cleaned*, should, and actually does produce a powder of a higher or fuller colour than the large leaf. *If not well cleaned*, the colour of the powder of the small leaf should be dull, heavy, or dingy, as compared with the powder of the large leaf; and it is found so to be.

loses about one-fourth of its weight. The solutions are of a reddish or orange brown. The solutions of the subcarbonates are the most deeply tinged. The leaves, after such maceration, yield a considerable proportion of their weight to boiling alcohol. After maceration in the liq. ammoniæ, boiling alcohol extracts one-sixth. The alcohol is tinged of a deep olive. After maceration in liq. potassæ the residue yields to boiling alcohol one-twentieth. The tincture is pale yellowish green. From leaves which have been macerated in the carbonates or subcarbonates, alcohol extracts one-fifteenth. The alcohol is very slightly tinged. The residuum unacted upon by the alcohol, forms, when macerated in water, a mucilaginous solution, but passes pretty readily through paper. It much resembles in appearance a decoction of Iceland moss. Nine grains and a half diffused in six ounces of water, lost six grains.

An infusion of senna was made with two ounces of Alexandrian senna and one quart of cold water. After standing twelve hours, it was tried with the following re-agents.

Nitric acid.—No sensible change took place. One hour, a few flocks floating in the fluid. Three hours, these flocks were resting on the sides of the glass. The fluid remained transparent.—No further change took place.

Muriatic acid.—No immediate change was perceived. One hour, a flocculent separation, similar to that which took place in the last. Three hours, the flocks deposited on the sides, as in the last instance. Fluid transparent and unaltered in colour. No further change.

Acetic acid.—No change. One hour, a separation similar to the former. No other change took place.

Sulphuric acid.—No immediate change. One hour, the fluid was paler, and the same separation was observed which took place in the former instances. The fluid very bright. No further change.

Liq. Ammoniæ — Produced immediately a purple cloud. One hour, the fluid was of a transparent reddish purple; a woolly deposit filling half the glass. Two days, the precipitate had subsided, not occupying more than half the space which it had previously filled. The colour of the fluid a still deeper purple than before.

Liq. Potassæ—Instantly gave it a deep reddish purple tinge. In an hour, improved in brilliancy, and perfectly transparent. Three hours, a small quantity of a fleecy deposit. No further change.

Solution of muriate of barytes. — No immediate change. Three hours, some deposit in flocks at the bottom of the glass. Two days, some of the same deposit on the sides of the glass. No further change.

Solution of nitrate of barytes. — No immediate change. Two days, a small quantity of flocculent separation. No further change.

Solution of muriate of gold. — No immediate change. One hour, a slight purple tinge. Three hours, fluid clear; a small quantity of a purplish sediment at the bottom of the glass. No further change.

Solution of muriate of platina.—No immediate change. In two or three minutes, rather lighter in colour and cloudy. One hour, cloudy, flocks of matter floating throughout. Three hours, the precipitate was in larger quantity. No further change.

Solution of nitrate of silver.—An immediate flocculent separation, which quickly subsided. One hour, the separation appeared like wool compressed. Colour, olive-green. Three hours, fluid rather turbid. No further change.

Tinct. galls—Rendered the fluid cloudy. One hour, cloudy, with a flocculent sediment at the bottom and on the sides. Three hours, unaltered. No further change.

Solution of prussiate of potash—Rendered it brighter. One hour, a flocculent sediment. Two days, appeared rather browner, with a greenish hue. No other change.

Solution of muriate of tin — Immediately rendered it cloudy. One hour, a precipitate, like carded wool, filling nearly the whole glass. Three hours, the precipitate had divided into two masses; one half had fallen to the bottom, and the other half remained suspended in the upper part of the fluid; being of a brownish lemon-colour; the supernatant fluid turbid, and of a light yellow; that between the strata of precipitated matter bright, and of a lemon-colour.

Solution of carbonate of potass — Gave the infusion a slight red cast. One hour, turbid and purple. Three hours, a purplish fleecy precipitate, filling nearly the whole of the glass; supernatant fluid transparent and purple, but less deep than under the application of the liq. potassæ. Two days, beautifully transparent; the precipitate fleecy, and had subsided to half the space it had before occupied.

Solution of alum. — Rather turbid. Two days, clear; a fleecy precipitate. No other change.

Solution of corrosive sublimate. — No immediate change. Three hours, a similar flocculent precipitate. No other change.

Solution of tartarized antimony. — No change. Three hours, a fleecy separation. No other change.

Solution of sulphate of iron — Rather darkened the infusion. One hour, turbid, with a flocculent sediment. Two days, very dark near the surface. No other change.

Solution of sulphate of zinc — Renders it cloudy, like the last. Two days, dark near the surface. No other change.

Solution of acetate of zinc. — No immediate change; the fleecy deposit shortly took place. No other change.

Solution of acetate of lead. — An immediate dense precipitate, which quickly subsided, leaving the fluid turbid. One hour, the precipitate of a dirty stone-colour. Three hours, no change. Two days, supernatant fluid clear and lemon yellow.

Solution of oxalate of ammonia. — An immediate milky separation. Four hours, the fluid milky. Two days, a slight deposit of matter at the bottom of the glass, and on the sides in dots.

Solution of oxalic acid. — Turbid. Four hours, turbid and milky. Two days, a slight sediment and dots of matter on the sides of the glass; otherwise clear.

Solution of glue. — Four hours, no change. Two days, flocculent throughout. No other change.

Solution of isinglass. — Four hours, no change. Two days, slightly turbid. No other change was observed.

Senna has of late been brought from the interior of India to Calcutta, and thence to this country, in bales of about two hundred weight each. Colour green, with a slight olive tinge, fragrant, and, as far as my observation has extended, nearly free from impurities.

When the leaves have been well dried, the powder is of a beautiful bright green with a yellow tint.

The infusion and tincture of this senna differ in colour from the infusion and tincture of the Alexandrian senna; and the proportions taken up by water and alcohol are also different.

Water takes up a larger proportion of Alexandrian than of East India senna, as nine is to seven. The infusion of the Alexandrian senna is also deeper coloured, with more fragrance and bitterness. To boiling alcohol the East India senna gives out the most in the proportion of eight to five, the colour being proportionally deeper.

East India senna, after being macerated in water, and subsequently

deprived of resinous matter by digestion in alcohol, forms, when again triturated with water, a ropy mucilaginous mixture, resembling in consistence white of egg, but in colour a decoction of Iceland moss. One dram diffused in six quarts of water renders it so mucilaginous as not readily to pass the filter, and loses by the operation half its weight. *Liquor potassæ* takes up two-thirds of what remain, leaving, to all appearance, little else than reticular or woody fibres.

When macerated in diluted solutions of the pure alkalies, their carbonates or subcarbonates, this senna, compared with the Alexandrian, does not give so strong a tinge to the solution.

After repeatedly macerating the leaves in cold water only, and finally powdering them, the powder is of a beautiful green, with little if any yellow tinge.

If hot water be used in macerating the leaves, the colour of the powder obtained is of a dull brownish olive; but notwithstanding the difference as to colour of this powder from the powder obtained after maceration in cold water, alcohol digested on either, and evaporated, leaves an equally brilliant residuum.

Four hundred and thirty-seven grains and a half (one ounce avoirdupois) of Alexandrian senna, cleared from stalks, dead leaves, and impurities, were put into a Papin's digester, with four pints of water, and placed in a sand bath; the temperature ranged from three hundred to four hundred and fifty degrees of Fahrenheit's thermometer. After remaining four hours it was removed, and when cold, the fluid was filtered; it was of a deep brown, and stained the filter of the same colour. The leaves were brown, with a slight green tinge, and, when dried, weighed two hundred grains, having lost two hundred and thirty-seven grains and a half. Of these two hundred grains twenty grains were boiled five minutes in one ounce of alcohol, which became slightly tinged of a pale green. The leaves, after drying, had lost four grains, and were of a dark dingy brown, approaching to black.

The observations which I wish to offer upon the facts now detailed, I reserve until a future occasion; in the meantime remarking, *that the extract of the resinous or colouring matter, by means of the alcohol, after maceration in water, appears to me to be a very important fact, not only with reference to medicine, but to the purposes of the artist; and that although the application of the re-agents may not at present carry the mind of the reader to any important result, I shall hereafter show that regard to the re-agents is indispensable to accuracy of observation in the pursuit of vegetable chemistry.*

I remain, Gentlemen,

Your obedient servant,

RICHARD BATTLE.

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#### LITERARY NOTICE.

Mr. Haden, of Sloane Street, is about to publish a Monthly Journal of Medicine, addressed principally to unprofessional persons.

It seems that in publishing this Journal, it is not his intention to commit the common mistake of supposing that he can teach the public how to distinguish and to cure diseases, for he well knows that they are incapable of being so taught; but whilst the varieties of diseases are infinite, the springs of disorder are very simple and easily recognised.

The work, therefore, will teach the prevention rather than the cure of disorders; at the same time that it will point out how the friends of the sick may in the best way assist their medical men in their treatment, and otherwise show how health may be preserved, and disease warded off.

## A METEOROLOGICAL TABLE,

From 21st of DECEMBER, 1820, to 20th of JANUARY, 1821.

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge.	Winds.	Weather.
	Max.	Min.	Max.	Min.			
21	29.67	29.62	48	42		WSW...	1 Sun... 4 Cloud..
22	29.68	29.67	47	37		WNW..	1 Sun..
23	29.69	29.64	42	34		NW.	1 Cloud...
24	29.72	29.69	38	32		EbN.	1 Sun..
25	29.69	29.62	33	31		E.	1 Cloud...
26	29.69	29.68	34	32	04	EbN..	1 Cloud... & Sh. of Snow.
27	29.77	29.72	33	28		E..	1 Cloud... & Sh. of Snow.
28	29.86	29.83	34	28		E.	1 Cloud... & Sh. of Snow.
29	29.88	29.83	32	29		E..	1 Cloud...
30	29.81	29.71	32	28		EbN..	1 Cloud...
31	29.67	29.57	31	28	07	ENE.	1 Cloud... 4 Snow.
1	29.52	29.43	33	27	04	NNW.	1 Cloud.. 4 St.. & Sh. of Sn.
2	29.35	29.25	31	19		NNW.	1 Sun...
3	29.24	29.20	31	19		NNW.	1 Sun...
4	29.20	29.15	29	23		NNE.	1 Sun..
5	29.11	29.04	32	27		E..	1 Show. of Snow.
6	29.03	29.03	36	31	23	ENE..	1 Snow...
7	29.05	29.97	37	33	88	NE.	1 Rain...
8	29.97	29.82	39	35	26	NE.	1 Rain...
9	29.84	29.72	29	31	24	EbN.	1 Rain...
10	29.84	29.82	37	32		NbW.	1 Cloud...
11	29.93	29.89	36	32		NE.	1 Cloud...
12	29.94	29.79	44	34	15	SE.	1 Mist... & Show..
13	29.29	29.22	45	36		SW..N.	1 Sun..
14	29.57	29.54	41	28		NE.NW.	1 Cloud... 4 Moon...
15	29.13	29.09	44	32	46	SE.SW..	1 Rain.... 4 Moon.. & Sh.
16	29.56	29.53	47	40		SW...	1 Sun..
17	29.64	29.63	49	43		SW...	13 Sun.. 24 Cloud..
18	29.73	29.73	54	46		SW....	14 Cloud.. 23 Sun..
19	29.81	29.73	53	40		SW...	1 Sun. 2 Cloud..
20	30.11	30.03	46	31		WSW..	1 Sun....

The quantity of rain during the month of December was 1 inch, 83-100ths.

*Observations on Diseases at Richmond.*

The disorders under treatment were, Asthenia, Catarrhus, Cephalalgia, Diarrhea, Dyspepsia, Dysuria, Epistaxis, Febris catarrhalis, Febris continua, Furunculus, Hæmorrhoids, Hypochondriasis, Lumbago, Menorrhagia, Obstipatio, Odontalgia, Palpitatio, Pernio, Podagra, Rheumatismus, and Scrofula.

# THE METEOROLOGICAL JOURNAL,

From 20th of DECEMBER, 1820, to 19th of JANUARY, 1821,

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon.	Rain.	Therm.	Barom.	De Lac's Hygrom.	Winds.	Atmo. Variation.
20		,03	44 50 49	30 38 30	20 66 67	WSW SW	Clo. Rain Clo.
21			49 50 43	30 11 30	17 65 63	W WNW	Clo. — Fine
22			38 47 42	30 15 30	09 61 62	WNW WNW	Clo. — Rain
23		,04	40 45 33	30 00 29	90 62 61	NE ENE	Clo. Sho. Clo.
24		,02	33 36 33	29 88 29	87 59 57	ENE ENE	Clo. — —
25			33 36 30	29 84 29	84 56 56	ENE ENE	Clo. — —
26			31 33 31	29 78 29	90 57 58	E E	Clo. — —
27	☾		32 33 31	29 92 29	93 58 60	NE ENE	Clo. — —
28			31 31 27	29 94 30	00 59 59	NNE NE	Fine — —
29			28 29 26	30 00 29	93 56 57	NE NE	Fine — —
30			28 29 25	29 97 29	97 57 56	E NE	Clo. Fine —
31			27 30 28	29 95 29	93 55 57	NE NNE	Fine — —
1			31 32 27	29 88 29	86 57 56	ENE ENE	Clo. — —
2			28 30 27	29 74 29	60 58 57	SE E	Clo. — —
3			28 31 27	29 46 29	35 57 57	E NE	Clo. — —
4	☾		27 31 30	29 41 29	40 58 58	NE NNE	Clo. — —
5		,05	31 32 33	29 35 29	23 59 62	NE E	Clo. Lt.sn Sn.
6		,26	36 40 35	29 20 29	27 63 65	E ENE	Rain — —
7		,11	37 39 38	29 27 29	23 67 67	E E	Rain Clo. —
8		,15	40 43 35	29 21 29	19 66 67	E E	Fine Clo. Rain
9		,03	39 43 40	29 12 29	10 63 65	SSW SW	Fog — —
10		,13	41 46 40	29 16 29	11 65 67	SW E	Clo. — Rain
11	☾	,28	45 49 40	29 16 29	20 67 65	E ENE	Rain — —
12		,19	43 53 39	29 30 29	40 65 65	SW SW	Rain — Clo.
13		,09	45 50 39	29 57 29	23 60 63	WSW SE	Fine Clo. Rain
14		,31	43 45 38	29 15 30	08 65 67	E ENE	Rain — Fine
15		,13	41 45 39	30 00 30	07 67 63	E E	Rain — Clo.
16		,09	43 47 41	30 11 30	17 60 60	SE ESE	Fine Clo. Rain
17		,11	47 50 45	30 20 30	21 64 62	E SW	Rain Clo. —
18	☉		51 54 48	30 18 30	23 65 63	SW WSW	Clo. — —
19		,08	50 52 44	30 31 30	27 63 61	SW SW	Rain Clo. —

The quantity of rain fallen in December is 1 inch and 61-100ths.

## A REGISTER OF DISEASES

Between DECEMBER 20th, 1820, and JANUARY 19th, 1821.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio .....	9		Gastrodynia .....	2	
Abscessio .....	10		Gonorrhœa <i>pura</i> .....	7	
Acne .....	1		Hæmatemesis .....	1	
Amenorrhœa .....	10		Hæmoptœ .....	5	
Anasarca .....	10	1	Hæmorrhoids .....	9	
Angina Pectoris .....	2	1	Hemiplegia .....	2	
Aphthæ <i>lactentium</i> .....	3		Hepatitis .....	14	
<i>anginosa</i> .....	3		Hernia .....	2	
Apoplexia .....	8	5	Herpes <i>Zoster</i> .....	3	
Ascites .....	2		<i>labialis</i> .....	4	
Asthenia .....	12		Hydrocete .....	2	
Asthma .....	65	7	Hydrocephalus .....	5	2
Atrophia .....	3		Hydrothorax .....	3	3
Bronchitis <i>acuta</i> .....	11	1	Hysteria .....	4	
<i>chronica</i> .....	11		Hysteritis .....	3	
Cancer .....	1		Icterus .....	6	
Carbunculus .....	1		Ischias .....	2	
Cardialgia .....	4		Ischuria .....	3	
Carditis .....	3	1	Lepra .....	1	
Catarrhus .....	25		Leucorrhœa .....	5	
Cephalalgia .....	21		Mania .....	4	
Chlorosis .....	1		Menorrhagia .....	9	
Cholera .....	7		Morbi Infantiles* .....	19	2
Colica .....	9		<i>Biliosi</i> * .....	8	
<i>Pictonum</i> .....	1		Nephralgia .....	1	
Convulsio .....	1		Nephritis .....	2	
Cynanche <i>Tonsillaris</i> ..	16		Obstipatio .....	2	
<i>Trachealis</i> ..	1		Odontalgia .....	10	
<i>Parotidea</i> .....	5		Ophthalmia .....	14	
Diarrhœa .....	16		Otalgia .....	5	
Dysentæria .....	5		Palpitatio .....	3	
Dyspepsia .....	22		Paralysis .....	5	3
Dyspnœa .....	2		Pemphigus .....	1	
Dysuria .....	1		Pericarditis .....	2	
Ecthyma .....	4		Peripneumonia .....	15	1
Eczema .....	1		Peritonitis .....	12	1
Enteritis .....	4		Pernio .....	8	
Entrodynia .....	3		Pertussis .....	6	
Epilepsia .....	3		Phlegmasia <i>dolens</i> .....	5	
Epistaxis .....	3		Phrénitis .....	1	1
Erysipelas .....	7	3	Phthisis Pulmonalis .....	8	7
Febris <i>Intermittent</i> .....	11		Plethora .....	1	
<i>catarrhalis</i> .....	27		Pleuritis .....	15	
<i>Typhus mitior</i> .....	3		Pleurodyne .....	2	
<i>Typhus grav.</i> .....	1		Pneumonia .....	10	2
<i>Synochus</i> .....	17	2	Podagra .....	5	
<i>Puerpera</i> .....	5	2	Porrigo <i>larvalis</i> .....	2	
<i>Remit. Infant.</i> ..	7	1	<i>favosa</i> .....	2	
Fistula .....	3		Prolapsus .....	2	
Furunculus .....	1		Prurigo <i>mitis</i> .....	2	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Prurigo senilis .....	3		Syphilis .....	21	1
Psoriasis guttata .....	1		Tabes Mesenterica ....	5	
<i>inveterata</i> .....	2		Tussis .....	7	
Raucedo .....	1		Tympanites .....	1	
Rheuma acutus .....	28		Vaccinia .....	9	
<i>chronicus</i> .....	29		Varicella .....	4	
Rubeola .....	3		Variola .....	10	2
Scabies .....	59		Vermes .....	4	
Scarlatina simplex .....	9		Vertigo .....	11	
Scrofula .....	4		Total of Cases .....	985	
Spasmi .....	1		Total of Deaths .....		49
Stricture .....	2				
Strophulus intertinctus .	2				

\* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Effloxi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases, with a Notice of  
Mr. UPPOM's Death.

TENDENCIES to congestive affections of the encephalon have been recently prevalent; and hooping cough, which has always a greater or less disposition to engender disordered states of the brain, has within the few past weeks displayed this inclination in perhaps more than an ordinary measure.

Four fatal cases of apoplexy are recorded in a single report from one of our correspondents; and we are exceedingly sorry in having to say, that one of these cases was that of a most respectable Practitioner and amiable man, who has furnished monthly lists to the REPOSITORY ever since its commencement—we mean Mr. Uppom, late Apothecary to St. Pancras Workhouse. All who knew Mr. Uppom, (and we had the happiness of being in the number of his friends,) esteemed him. He was a man of strict integrity and urbane manners; he was also well skilled in every branch of his profession, the arduous duties of which he continued to fulfil to the last hours of his active and useful life.

Mr. Hilditch, who is now the *pro tempore* successor of Mr. U., writes that two of the other cases of apoplexy marked fatal on his list, occurred in the parish infirmary, and the fourth was that of “a gentleman who had called to see a friend in the same street in which he resided, and waiting till the family had finished their dinner in an adjoining room, was seized and deprived of life before the nearest medical aid could be procured.”

We should have been glad to have been informed of the *post mortem* appearances in these several cases.

## MONTHLY CATALOGUE OF BOOKS.

History and Method of Cure of the various Species of Palsy: being Part I. of the Second Volume of a Treatise on Nervous Diseases. By John Cooke, M.D., F. A. S. 8vo. Price 6s.

Observations on the Climate of Penzance and the District of the Land's End in Cornwall; with an Appendix, &c. &c. By John Forbes, M.D., Secretary to the Royal Geological Society of Cornwall, &c. 8vo. Price 2s. 6d.

Case Illustrative of the Treatment of Obstructions in the Urethra, &c., by the new Instrument the Dilator; with further Directions to facilitate its General Adoption, &c. &c. By James Arnott, Member of the Royal College of Surgeons in London. 8vo. Price 4s.

A Short Description of the Human Muscles. By John Innes. Illustrated by Seventeen New Engravings descriptive of the Bones and Muscles. 12mo. Price 7s. 6d.

A Manual of Toxicology. By a Physician. 18mo. Price 1s. 6d. sewed.

Medical Botany, complete in 2 Vols. royal 8vo.; with one hundred and thirty-eight Engravings, Coloured according to Nature. Price £4. 4s.

General Elements of Pathology. By Whitlock Nicholl, M.D. 8vo. Price 9s.

A Synopsis of the Various Kinds of Difficult Parturition; with Practical Remarks on the Management of Labours. Third Edition, with considerable Additions, and an Appendix of Illustrative Cases and Tables. By Samuel Merriman, M.D., Lecturer on Midwifery. 8vo. Price 12s.

Practical Electricity and Galvanism; containing a Series of Experiments, calculated for the Use of those who are desirous of becoming acquainted with that Branch of Science. Second Edition. By John Cuthbertson. 8vo. Price 12s.

## NOTICES TO CORRESPONDENTS.

*Communications have been received this month from Mr. Heineken, and Ignotus.*

*Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 32, Fleet Street.*

THE  
LONDON MEDICAL  
REPOSITORY.

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No. 87. MARCH 1, 1821. VOL. XV.

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PART I.

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ORIGINAL COMMUNICATIONS.

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I.

*On the Action of Powerful Remedies; with an Account of Two Cases in which they were had recourse to.* By C. HEINEKEN, Surgeon, Bow.

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I TAKE an opportunity of sending two cases, which were intended for the REPOSITORY many months ago, but have been mislaid. There is nothing in them either new or surprising. The first is certainly anomalous; but trismus has often before yielded to mercury.

The practical good resulting from the narration of cases is perhaps very limited; for we are mostly inclined to view them with a jealous eye; much depending upon the judgment, and still more upon the preconceived opinions of the narrator.

But a main reason why a remedy, efficacious in the hands of one, becomes inert in those of another, and a disease successfully combated by the former, baffles all the skill of the latter, is, that although they use the same remedy, and treat the same disease, they do so from different motives, and under opposite impressions. Nothing exemplifies this more strongly than bleeding.

I read a number of instances in which typhus has been speedily cured by venesection. I have recourse to it, and am astonished to find that most of my patients die; not considering that the successful Practitioner bled in one stage of the disease, and I in another.—In puerperal fever the same; if, instead of at once making a decided impression upon the system by copious and early detraction of blood,

and thus crushing the disease *in limine*, I draw away a small quantity—allow some hours to elapse—and then take a little more—and have recourse to the lancet in this puerile, undetermined manner; the strength of my patient is exhausted in detail; the disease, smothered but not extinguished, breaks forth again, and proves fatal, and bleeding has the credit.

These appear to be some of the reasons for the great contrarieties which occur in the opinions and practice of medical men; and account in some measure for remedies being for a time considered never-fading, and then nearly ineffectual.—*Fashion*, also, has considerable weight in our Profession; and I believe the majority of my medical brethren will join me in decrying its interference, and in the opinion that fashionable remedies, to say the least of them, are seldom worth much. Their fame is generally merely ephemeral, and after working wonders for a time, they sink to their just level, and are estimated according to their intrinsic worth. I remember at one time hearing of the great virtues of the *pyrola umbellata*; but it was soon found that squills answered just as well—*digitalis* a great deal better! *Piper cubebo* was, not long ago, so much the rage, that a Druggist actually let me have a pound (and at a very exorbitant price too) as a favour; but in the course of my limited practice, I have found it at best uncertain—in some instances nearly inert—and in some painfully active.

The liquor arsenicalis was, not long since, announced as a perfect panacea. It has now become a highly useful, but by no means infallible medicine.

Prussic acid has been extolled, not only for its wonderful effects in phthisis, but also in stomach complaints, (rather opposite maladies); but some are already beginning to class it with *digitalis* and the whirling table, in the former disease; and to attribute the cure of the latter as much to the plan of diet pursued as the medicine given.

Several of my friends are, at this moment, almost working miracles with the *vin. colchici*. It cures rheumatism, gout, *tic douloureux*, nay, even gonorrhœa, in their hands; but with me, its failures have been at least equal to its successes.

Now, I do not mean to deny that all of these preparations may be very useful;—my only objection is to the mania which constitutes them omnipotent, and renders them in many instances decidedly deleterious; and I cannot help thinking, that he who knows a disease thoroughly when he sees it, and understands the principles upon which it should be treated, will find the present pharmacopœia quite bulky enough for his purpose. Far be it, however, from me to decry innovation—it has been the origin of the greatest

good in physic, as well as in every thing else: but innovation for the mere sake of innovation is absurd; and using a particular remedy as we would wear a peculiar hat, because it is in vogue, still more so.

Our knowledge of medicine is at best but limited, and much more likely to be extended by researches into the *modus operandi* (a circumstance of which we know next to nothing) of those remedies most familiar to us, than by the introduction of others still more occult in their operations.

In addition to fashionable remedies, there is a class infinitely more prejudicial to medicine in practice, and degrading to it as a science—I mean *SPECIFICS*;—a term which it is difficult either to understand or admit, as applied to disease or remedy; but, according to its usual acceptation, syphilis as a disease, and mercury as a remedy, stand first and foremost; and, in proof of my assertion, need alone be appealed to.

How often, after passing their fiat as to the existence of the one, (no easy thing,) do Surgeons indiscriminately rub in the other; and, notwithstanding an exasperation of every symptom, continue to do so, from the conviction that the disease being specific, and the remedy specific too, it must be cured in this way, and can be cured in no other; until, after having saturated their unfortunate patient with mercury for six weeks or two months, he escapes at last with a broken constitution—when the original sore was perhaps nothing more than an ordinary one, rendered irritable by imprudence or debauchery, and which, but for their *specific* notions, would have readily healed under mild means and prudent conduct. This is by no means a rare or imaginary case. Whoever has attended the foul wards of a hospital, must have seen many such; and, unless we view things through a very different medium, will, I think, bear me out in my assertion, that the community has suffered, beyond comparison, more by the remedy than the disease.

Still mercury is a highly useful medicine—perhaps the most extensively so, under proper management, that we are possessed of;—no one is more liable to abuse—abused, it is productive of great mischief—as a specific, of scarcely less—but as an abused specific, its ill effects are incalculable.

After what has been said, the first impression upon the minds of some who may read the following cases, in both of which mercury has been administered, and in one with no sparing hand, may be of their author's inconsistency; but I am not bringing forward a specific disease, and prescribing a specific remedy for it, or adding my mite in support of

fashion and its vagaries. I am only stating, that in two very serious complaints mercury has been an effectual remedy; but in two similar ones it may, for aught I know, fail;—and the *observations* have been hazarded rather in the way of *digression*, than as distinctly bearing upon the point,—the cases would perhaps have been as well without them.

The first is that of William Davies, a stout hard working labouring man, of sober habits, and habitually subject to headach. He is in his forty-seventh year, has always been much exposed to cold and the vicissitudes of the weather, and when a boy had the ague.

About four years ago, he was salivated for what he calls “rheumatic gout:” he caught cold, and was attacked, though in a far slighter degree, with his present complaint, which has recurred more or less every five or six months from the same cause, or when the gout has just left him. He resides at Bromley, where I have neither known nor heard of other than now and then a sporadic case of ague occurring; and has never left it for any length of time, or worked out of its neighbourhood. He was under my care some months before his present attack; but considering the case, from description, to be one of ordinary ague, I ordered his bowels to be opened, and the bark given, and he soon recovered.

On the 19th of October, 1819, his wife called to say he was again attacked with his old complaint; and I gave him some of the old remedy.

On the 25th he had been scarcely free from rigors during the whole day; and I found him in one, which was certainly *out of comparison* more severe than any I had ever before witnessed; it was succeeded by heat and profuse sweating, and followed by another equally severe, after an interval barely notable: and in this way he had passed the day, the whole of the night, and part of the preceding day. The bowels were open, and the tongue clean, and there was no local pain. A dram of bark was directed to be given at each interval between the attacks, and should these be at all protracted, to be repeated during them, until the stomach rejected it.

26th. — The intermissions have been somewhat longer, but the rigors are as violent as ever. Twenty doses of the bark have been given, but with no sensible effect. The bark was ordered to be persevered in, and ten drops of the liq. arsenicalis also given three times in the day.

27th. — No relief. Has some pain in the head, but in other respects complains only of exhaustion and general muscular soreness. A large blister was put upon the neck,

and sixty drops of tinct. opii-directed to be given at the first symptom of approaching rigor, omitting both the bark and arsenic.

28th,—The laudanum was given at three o'clock P.M. yesterday; and the rigors did not recur before twelve at night. Eighty drops were ordered under the same directions.

29th.—The medicine was taken at eleven A.M. yesterday, and he has remained free from all attack until the present hour (twelve). He has now a rigor upon him, is sick, and the bowels are constipated. Ext. coloc. co. ʒj. hyd. subm. gr. v. statim; fifty drops of laudanum to be given, if required.

30th.—The bowels were freely opened by the medicine yesterday, and he had no rigor during the day.

31st.—At eight yesterday morning he was threatened with an attack, but the laudanum (fifty drops) suspended it; at eleven the same, and again at three in the afternoon.

November 1st.—The medicine was given at eight A. M., and repeated at twelve, yesterday. He had three or four slight rigors in the course of the day, and this morning six or seven much stronger. The bowels are open; the pulse soft and slower; there is still some pain in the head, but none elsewhere. One hundred drops of laudanum were ordered, in an ounce of water, when the next attack is anticipated.

2d.—No rigor of consequence until seven this morning, when a severe one came on, but was removed by the medicine. Bowels confined. Ext. coloc. comp. ʒj. statim.

3d.—Was purged briskly yesterday. Had one rigor at ten A. M., which took its course; but another at two this morning was relieved by one hundred drops of laudanum in three drams of water. The quantity was directed to be increased to one hundred and twenty drops when next taken.

Four, P. M.—Has taken the increased dose, but has had one attack since. It was ordered to be repeated whenever the rigor recurred.

4th.—The laudanum was repeated at twelve last night. The rigors recurred at one this morning, and continued, with the slightest intermissions, until six, attended with delirium and great restlessness. This was reported to me; but I was unable to call before four in the afternoon, when I found him much in the state already described. The rigors were almost constant, and nearly, if not quite as violent as ever. He complained of great pain in the head, and a feeling of general illness. The pulse was 86, and full; the bowels open. He was, in fact, quite as bad, nay, perhaps worse than when I first saw him.

When the hot stage had fully commenced, I drew from a pint to twenty ounces of blood from a large orifice, and

produced syncope. The fainting soon went off, and was succeeded by a most profuse sweating, and instant and complete relief. He said he had never felt so comfortable since his illness.

5th.—The relief is hitherto permanent; there has been no rigor. He has passed a good night, (a circumstance which has never before happened since his attack); the pulse is natural; he is covered with a gentle warm perspiration; the bowels are open, and he feels quite another man. The blood drawn yesterday is slightly inverted at the edge, and covered with a firm size.

6th.—Going on well; bowels confined. Ext. coloc. comp. ʒj. pil. hydrarg. gr. v. ʒm. nocti.

7th.—Bowels open. There has been no recurrence of rigor; but he complains of spasmodic catchings of the face, hands, &c., and occasional chills. No local pain; pulse 64, full, and labouring. I took about ten or twelve ounces of blood from a large orifice, which removed the chills, and left the pulse the same in frequency, but soft, free, and diminished in volume.

10th.—Is sitting up; has had no recurrence of the complaint; the bowels are open; pulse and tongue natural; his appetite is good, but he is low and weak.

13th.—He has had occasionally slight chilliness; in other respects he remains the same. I ordered him five drops of laudanum, and the same quantity of liq. arsenicalis, thrice in the day.

18th.—He is much as he was on the 13th, excepting that he has the gout in one of his feet. His medicine is increased to seven drops of each at a dose.

21st.—Several moderate rigors have come on to-day, but have been put a stop to by fifty drops of laudanum.

23d.—The rigors have relapsed into chilliness only; the gout is becoming more general. He continues the laudanum and arsenic; and, the bowels being confined, is ordered one scruple of colocynth.

25th.—Two slight rigors came on last night.

27th.—Two also yesterday. The gout has nearly left him. The medicine was directed to be persevered in. The blue pill discontinued.

December 6th.—The medicine has been regularly continued, and he has remained free from all attack and improving in health since the last report, until last night, when several severe rigors came on, attended with sickness.

7th.—There have been two or three rigors during the day; they are succeeded by very slight, if any heat or sweating; and although clothes are heaped upon his bed, he is generally

cold and chilly during the intervals, which are of very uncertain duration. The pulse is natural and soft, the tongue clean, and the bowels open, and he suffers no pain. I ordered again the bark.

8th.—After nine doses had been given, the stomach rejected it. An emetic was directed at the accession of the next rigor.

10th.—The emetic has had no influence over the attacks, which are less numerous, but as severe as ever. He is now, when the rigor is absent, in a state of constant tremour. There is no other pain than a slight headach. The loss of about six or eight ounces of blood induced fainting and perspiration, and seemed to relieve.

11th.—He thinks he feels relieved, though he appears much the same. A mixture, with sixteen ounces of infusion of valerian, one ounce and a half of its tincture, and two hundred drops of laudanum, was ordered, of which three table-spoonsful were to be taken every fourth hour, and five grains of blue pill every night and morning.

18th.—Much the same. The mixture is discontinued.

16th.—He was yesterday thrown into a *profuse salivation*, and has had no rigor since. He complains of some headach. I directed him to take an ounce of castor oil, to have a large blister to the neck, and to continue a blue pill at night only.

21st.—Ptyalism has ceased, but the gums are still sore. There has been no return of the complaint. His health begins to mend. He gets into a warm general perspiration when in bed, has a good appetite, and the pulse, tongue, and bowels, are in a natural state. The pill was ordered to be continued.

27th.—He improves in health and strength daily; the mouth is still sore. The pill to be continued.

January 2d.—From imprudent exposure to cold, his gums and face are swollen and inflamed. He has headach, and last night experienced a slight rigor. I desired the pill to be left off, a blister to be put on his neck, and opened his bowels well; and from this time, with the use only of occasional aperient medicines, and with now and then a slight attack of rigor, upon putting himself too forward, or exposure to cold, he has gradually recovered. His convalescence, however, has been very slow, and interrupted by many checks; and, although he has never been able to work as a labourer since the beginning of last summer, his illness has left him a very different man from what it found him; and he has, (I am just informed by my assistant), within

the last few weeks, had a slight attack of his former complaint; it was but slight, and left him in a few days, under the use of the liquor arsenicalis.

Taking for granted that this man was labouring under ague, I gave him, in the first instance, bark. Upon seeing him, I found (as was stated) the rigors surpassing in violence any thing I had ever before seen. The complaint could not come under the denomination of an intermittent, for it was continued; but still it was more like that than any other, and I therefore persevered in the bark, until I feared the disorder, if not checked, would prove fatal. A fair trial was certainly never given to arsenic. I felt convinced that no remedy, unless pushed to such an extent as to give a shock to the system, and set up an action more powerful than the morbid one, could be of any avail, and was afraid to trust it in ignorant hands with this object. The first impression made by the laudanum was certainly very marked, but the disorder rallied even while this was taken, if not to a deleterious extent, yet very nearly approaching to it. Bleeding gave the most decided relief; and when disappointed in it, notwithstanding so fair a promise, I began to despair. Ptyalism, induced by a very moderate quantity of mercury, seems to have arrested the complaint, and if it did not wear itself out, may have the credit of curing it. Nothing is to be concluded from the liq. arsenicalis having succeeded in this recent attack, for it bore so little comparison with the former as to scarcely deserve the same name; but it unfortunately seems to prove that the predisposition still remains.

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THE other case is one of trismus, and the subject of it an engineer, named Ferguson, in the thirty-third year of his age, a stout healthy man, of sober regular habits. It came on suddenly about a fortnight before I saw him, which was on the 15th of December, 1819; and is attributed by him either to working up to the middle in water ten or twelve days before, or to a violent blow, breaking the bridge of his nose, a week previous to its accession. He has been taking five grains of calomel and one of opium every night, and applying a small blister under the angle of each jaw, by the direction of a medical man. The mouth is slightly affected, but he does not find himself at all relieved. He complains of an uneasiness and stiffness of the muscles of the throat and face; speaks with tolerable facility and distinctness, but from the under lip being constantly drawn in towards the

teeth, he is obliged to keep the finger applied to it, whenever he talks. The point of my fore finger can just be introduced between the front teeth, but the rigidity of the muscles is increasing. He has experienced, within the last few days, frequent spasmodic contractions of the muscles of the chest, arms, &c., but more especially an occasional sense of constriction around the hypochondria, and pharynx, but never of long or painful continuance. He has also found, that, after sitting for a time, the muscles of the thighs and pelvis become rigid and inactive, that he cannot rise without the assistance of his hands, and that his limbs are with difficulty set in motion; this once overcome, he walks much as usual. I took about eighteen ounces of blood from him, placed a large blister over the whole throat, and gave him a scruple of Dover's powder at bed-time.

16th.—The blister has drawn thoroughly, and he thinks he can open his mouth a little wider. I sent him six powders, with ten grains of Dover's powder and a quarter of a grain of tartarized antimony in each, directing one to be given every fourth hour, an ounce of castor oil immediately, and a warm bath to be used just before going to bed.

17th.—The muscles of the jaw, face, and lip, are certainly more relaxed, but the spasmodic affection of those of the chest, &c. has increased. The pulse is small and natural; the bowels confined. Ext. coloc. comp. ℥j. statim.

R Pulv. Ipecac. comp. ℥v.

Antim. Tart. gr. ij.

In pulv. vj. 4tis horis sumat unum.

Reptr. balneum tepid hor. somni.

18th.—Somewhat better, but not decidedly amended. The medicine has no visible effect, either by producing sleep, nausea, headach, or diaphoresis. I ordered it to be continued, sending six more powders.

19th.—He is certainly not so well; can scarcely rise from his chair, and when he attempts to walk, drags his legs like one labouring under paraplegia. He also complains a good deal of the increasing pain and stricture across the chest and hypochondria. The bowels are open, and the pulse natural. I left him without any medicine, desiring flower of mustard to be well rubbed over the face, throat, chest, &c., and the bath used at night.

20th.—Much the same; bowels confined. A blister was made so as to cover the throat, chest, and chin, the bath directed to be continued, and some aperient pills given.

21st.—There is no alteration. Hyd. subm. pulv. opii, āā, gr. ss. in pil. secundis horis sumenda. Mitte, No. vi.

22d.—Hyd. subm. pulv. opii,  $\mathfrak{ss}$ , gr. j. in pilula, secunda quaque hora sumenda. Mitte, No. xii.

23d.—The calomel increased to two grains every second hour, and twenty-four pills sent. He is scrupulously punctual, and has been all along, in taking whatever medicine is ordered, and submitting to every suggestion. The mouth is not at all affected by the mercury, nor has the opium (a grain of which is continued in each dose) the slightest apparent effect.

24th.—He says that the affection of the chest, &c. is somewhat relieved. The gums are inflamed and spongy only.

25th.—His mouth is sore, but he is not yet salivated. Repr. pil. vj.

27th.—I did not see him yesterday. He is now in a state of *excessive salivation*.

The spasmodic action of the muscles is abating, and he walks with more ease and firmness. The pills are to be discontinued, and he is merely directed to confine himself to one room, and keep the bowels open, leaving the ptyalism to subside in its own time.

From this period every unpleasant symptom gradually disappeared; by degrees he was enabled to open his mouth as wide as ever. The salivation was profuse, and very distressing for some time, and when I last saw him (15th of January) had not quite subsided, but was daily declining. He went shortly afterwards to Maidstone, as engineer to some manufactory there, and had continued quite well when I last heard of him, which was in the course of the summer.

The quantity of calomel here given was certainly large, and that of opium much greater. The difficulty of affecting the system with the one, and its total inaccessibility to the action of the other, together with the *immediate* and *permanent* effect produced on the disease, as soon as it became affected, are additional proofs that we cannot prescribe the quantity of any medicines necessary to produce a certain effect in different diseases; and the principal, or perhaps only practical utility of this and the preceding case, is, that they concur, with many others, in showing the extent to which powerful medicines may not only be given with impunity in violent disorders, but to which it is absolutely necessary to push them, if we hope to see their beneficial effects, or to judge impartially of their merits and efficacy, before we discard them for others of more novelty perhaps, but less intrinsic value.

## II.

*Case of Symptomatic, or Hectic Fever, consequent to the Evacuation of extensive Collections of Matter, in which Stimulating Injections proved highly serviceable.* By EDWARD THOMPSON, Member of the Royal College, London.

CASES of symptomatic, or hectic fever, consequent to the evacuation of extensive collections of matter, have been so frequently detailed, that I am perhaps to blame in transmitting the following for insertion into the valuable pages of the REPOSITORY. And yet, although we may have arrived at comparative excellence in the treatment of many diseases, it must be acknowledged that, in this, we are far from excellence, and, indeed, in a state of primitive ignorance, as to the power we possess in checking its strides, or subduing its virulency. It would appear to advance or recede, alike regardless of our efforts to hasten or retard; and if it should sometimes spontaneously depart, we are not often left the transitory pleasure of thinking that our endeavours had produced the effect. If such be the intractable nature of the complaint, any change in the treatment may be of value, should it have been accompanied with a happy result; and I am induced to offer it, not with the most distant hope of its proving of much practical benefit, but with an anxious desire that gifted individuals may turn their attention more particularly to the study of diseases of this nature, as these improvements may be expected to arise, and some control attained over affections, which, when they do take place, commonly pursue their fatal course with a certainty not to be resisted. Before commencing the case, it is necessary to premise, that the method resorted to, on which the successful issue depended, did not originate in the Surgeon, but in a self-taught Veterinarian, who practised his art in the neighbourhood, and who put it into effect during the absence of the medical attendant.

William Sheffield, a mason, (residing about a mile in the country,) a short time after receiving a slight injury at his work, perceived a small tumour in the back, which increased daily. It gave him little or no uneasiness, and he was enabled to continue at his employment as usual, being not much incommoded by it, except on stooping, or endeavouring to raise any thing from the ground, of much weight; he then experienced a dull pain, and a peculiar sensation in the right thigh. The swelling, being of so indolent a character, did not alarm him, expecting still, by stimulating appli-

cations, in time to dissipate it; but in this he was deceived, for, instead of decreasing, it grew larger; and after trying such means for a long period without relief, he thought it advisable to seek other assistance, and I saw him on the 12th of January, 1819, twelve months after its first appearance. The tumour, when examined, was found to extend from the third lumbar vertebræ to the lower part of the sacrum, and from ilium to ilium. It was soft and elastic; the integuments were much distended, not pointed at any particular part, and of an equal thickness; the skin was of a natural colour, smooth, and shining, and he could bear it touched without feeling pain; indeed, handling the swelling in any way gave him not the least disturbance. It evidently contained a fluid, which appeared to have made its way under the gluteus muscle on the right side; there was a fulness in this place; and the tumour in the back could be made tenser by pressure being applied at that part. He had, for six weeks before applying for surgical aid, been often attacked with shiverings, which continued an hour or so, and then left him; but from that time he daily grew weaker, and his appetite, which had been previously good, almost quitted him. His sleep became disturbed, and the system was rapidly giving way to the attacks of the disease; his look, which had been that of robust health, was now changed to a sickly hue; and there appeared no time for trifling, as the disease had existed too long already. The weight of the abscess had also become exceedingly troublesome, and his movements much impeded by it. He was anxious to have something done for his relief, and willing to undergo any thing to gain it. A lancet was at this visit plunged into the centre of the tumour, and an opening made just large enough to favour the escape of the matter: the plan fixed upon was the one recommended by Mr. Abernethy and Mr. Russel, viz. that of evacuating the pus, as it collected in sufficient quantity, so as to effect, by this means, the contraction of the sac. Six pints of matter were discharged from the opening; the fluid from among the muscles in the buttock was pressed into the abscess, and from thence evacuated; a small piece of sticking plaster was applied; and a bandage, with compresses to the thigh, covered the whole. He was directed to keep in bed, and to avoid all unnecessary motion; a certain portion of wine was allowed him; and the bark mixture, with soda, was prescribed. He paid strict attention to whatever was desired of him, except that of keeping to his bed, on which much stress had been laid; but feeling so light and free from illness, after the abscess was tapped, he disregarded this necessary precaution; and

to his attending rather to the feelings of the moment than to his future welfare, may be attributed, in a great measure, his subsequent sufferings. His appetite and strength, after the pus was let out, returned gradually; and he was a fortnight after in better health than he had been in for many months before. But these signs of amendment were soon to give place to others of a less cheering nature. He had, by the exercise he could not be prevailed upon to forego, prevented the matter from collecting in the tumour, and the opening from uniting; the dressings by this means were almost continually kept wet; and what was feared in a short time took place. The lips of the puncture began to put on an ulcerated appearance; a low inflammation spread from this to the parts adjacent, apparently affecting the integuments through their whole thickness; the skin underwent the same change, assuming a deep red colour, which extended round the ulceration in the centre, like an areola, to the very limits of the sac. As this action arose, the matter became offensive, thin, and acrid; the constitution sympathized with such local derangement; and consuming hectic, with all its train of ills, began to sap the powers of life.—There are few Surgeons who are not ready to admit the futility of medicine at this crisis: their patient they see sink away, notwithstanding the most powerful drugs are exhibited; application is resorted to after application, without producing the wished-for effect; till at last they find, like the sagacious Ratcliff, that instead of twenty, not one remedy remains, on which dependence can be placed.—At this juncture, after bark, opiate cordials, &c., with applications of various kinds, such as preparations of lead, fomentations, &c., had been all severally used, without any benefit being derived, and the poor man was fast declining, from the prolonged but ineffectual efforts of the constitution to cast off local irritation, the proceeding above alluded to was ventured upon, with what intention I cannot presume to answer; and it is doubtful whether the person himself knew why he employed it, or what effect it might produce. Never having an opportunity of seeing him after, I gained nothing respecting it, except that the fluid was allowed to remain in the abscess some time.

On visiting the patient the next day, he was found in a high state of fever, complaining of great headach, violent pain in his back, and unable to suffer the slightest motion, or able to bear even the weight of the bedclothes. His pulse was rapid and full; skin hot; tongue white and furred; thirst excessive; had been in the night delirious; he was now collected, but unwilling to talk much; and to all ap-

pearances was in a state of extreme danger. These symptoms could not be accounted for; as, from the state in which he was left on my seeing him a day or two before, it was impossible almost for a moment to think that such excitement could have been induced, or if so, supported,—the debility being so extreme. It was not till on particular inquiry, his wife acknowledged that the injection had been used. When the back was examined, it was found in a high state of inflammation; the skin was of a bright red colour, which extended down the thigh. The least touch gave him excruciating pain, and he was obliged to keep constantly on his face. The tumour seemed filled with fluid; but when pressed upon, nothing except a small portion of dark-coloured liquid escaped. His linen was stained with the injection; and small undissolved grains of sulphate of copper lay on the skin, showing the solution to have been none of the weakest. The pyrexia continued without mitigation forty-eight hours; after that it slowly left him, and in three or four days disappeared, leaving him in a complete state of exhaustion. The inflammation in the back gradually subsided; he could move his limbs with more freedom; the matter put on a more healthy look than it had done since the first attack of hectic; and adhesion, from the firm feel of the integuments, appeared to have taken place. These symptoms were accompanied by an increase of appetite and of sleep; he every day gained more strength; the fever, which had been so critically put a stop to, never again threatened; and the system soon cast off all disease. He was prevented using exercise as soon as he desired, from the fear of its producing unpleasant effects, the cavity not having throughout adhered to the parts below. The discharge which took place from the surface, not yet obliterated, was very trifling, and of a healthy colour. A probe could be carried a little way under the integuments round the puncture, but not under the muscles of the hip; the outlet that way, large as it was, being entirely closed. In a short time, that portion of the sac which had not adhered contracted, the puncture united, and no further inconvenience was experienced. Slight absorption of the sacrum was the only consequence that ensued, from the long pressure of matter, which lay on the bone near twelve months. He is now as vigorous as ever, and has worked at his business above a year; enjoying excellent health, experiencing no bad effects either from weakness or stiffness of the parts, which might have been expected from the extent of disease.

On viewing this case, the most striking circumstance that presents itself is the appearance of strength which the con-

stitution displayed on the stimulating fluid being injected. This, when the frame seemed labouring under the most extreme weakness, is a matter of some astonishment; for it must be recollected, that the unavailing efforts of the system to subdue the local irritation had reduced the patient to the lowest apparent state of debility. If an opinion might be drawn from the phenomena exhibited in a single case, one would be prompted to say that debility has nothing to do with the original existing cause of local disease, attended by hectic fever. If what Mr. Hunter has advanced be admitted, that hectic is owing to the parts being stimulated to produce an effect beyond their strength, how are we to account for the action of the fluid thrown into the sac? Weakness in the parts could not have been the cause, or a more excessive inflammation would not have arisen, excited by a stimulus much greater than the one already present: yet it did arise; and not only was a stop put to this weak action, but a new one induced, so much more powerful that adhesion was the consequence. Debility of the parts, if accepted, implies that more strength cannot be elicited: taking this for granted, then, a cure cannot take place without the stimulus be removed, which the weakened part is vainly opposing; and yet we see a greater excitement combated with vigour. It surely appears illogical, therefore, to say that debility can exist in a part where a power (or stimulus) double the force of the first may be immediately overcome. It would appear, then, that hectic may be produced by a peculiar action in a part, to change which, the system is inadequate to the task—not from debility, as this would imply a want of power to put in a stronger action, but from the want of a more active and different stimulus to enable it to take upon it new habitudes. Supposing, for a moment, the above reasoning to be correct, the inference would be, that a cure could only arise in those cases, where the action was so far increased as to do away with the diseased surface, by inducing adhesion. Our means of reducing the excited action of an inflamed cavity, whence matter has been taken, are so ineffectual, that our patients (if the *vis medicatrix nature* do not assist) generally sink under the disease. We cannot lower the activity of the vessels with the rapidity required to save life; and, therefore, till we arrive at this knowledge, we must seek for other methods of cure: and one of them perhaps, although a dangerous one, may occasionally be found worth the trial—I mean that of injection. The manner in which the cavity began to assume diseased action is so strikingly illustrative of the opinion of Mr. Charles Bell, that it cannot fail to

draw some attention towards the point in dispute, relative to the way such abscesses become inflamed. The irritative action spread from the lips of the orifice, and produced the fever as it advanced: if air had been the exciting cause, the whole surface would have at once put on disease; but this was not the case. Again: if air be, as Richter says, so prejudicial to the inside of abscesses, how was it that the cavity did not become sooner inflamed? It continued above a fortnight open to the atmosphere, and yet all went on well till the ulcerative process commenced.

Before concluding, I have to apologize for any prolixity I may have been guilty of, and perhaps for detailing a practice which may be trite and useless. To the first I plead guilty, but to the second I plead ignorance. I am not acquainted with any similar case in which injection was had recourse to, in an abscess so much inflamed previous to its being cured. There is a case related by the ingenious and excellent Surgeon, Mr. Hutchinson, where an injection was thrown into the sac of a lumbar abscess with the happiest effect; but I do not recollect that it was employed under a state of great irritation.

### III.

#### *On the Medical Profession.* By IGNOTUS.

[The following article is admitted into the REPOSITORY upon the same principle that others are received which at once display talent and involve *debatable* matter, although the name of the writer does not appear. The Editors disavow any further responsibility as to the contents of the paper, than what the admission of an anonymous communication implies. Their own sentiments on the subject in dispute have already been laid before the reader. See REPOSITORY, Vol. IV. page 123.]—EDIT.

A *profession* is defined by Dr. Johnson to be “a calling, a vocation, a known employment;” but, he says, “it is used particularly of divinity, law, and physic”—vulgarly called the three learned professions. In Taylor’s “English Synonyms Discriminated,” those are said “to practise a profession who exchange intellectual exertion for money.” Now, although the Divine, the Lawyer, and the Physician may lay claim to the title of *learned* as applying to themselves exclusively—and notwithstanding the probability that theirs were the original, and at one time, only vocations admitted to be professions—yet, from general usage, and indeed according to the above definitions, *professional* is now by no means so select a term; and all those whose stock in trade is contained within their crania, call themselves, and are generally denominated by the world, *professional*.

With law and divinity I have at present little concern: but, as far as my observation goes, they appear to maintain their integrity, as professions, unimpaired by inroad on the one hand, or undue extension on the other; and although, as in all human associations, some dishonourable members may be found in the one, and an occasional bigot in the other, yet their general character is that of gentlemen and men of education. Physic, in its confined and literal sense, is equally respectable; and a Physician ranks quite as high as either an Advocate or a Clergyman: but unfortunately his profession has not maintained its integrity, and under the general head of a *medical man* he loses a great part of his respectability and consequence; and physic, blended and amalgamated with the *medical Profession*, parts with its identity, and at least its claim to *learned*. A Surgeon, in common with an oculist, a painter, an author, and a crowd of others, may claim his station along with those "who exchange intellectual exertion for money;" but whence the *Apothecary* derives his claim, and why he has been allowed so long to enforce it, has often surprised me. It may perhaps be said, that I am merely cavilling about terms—that the distinction is at best but a nominal one—and that as "a rose will smell as sweet by any other name," a Physician will be as learned, as polite, as much of the gentleman, and as able in his practice, call him what you please; and that the medical Profession is quite as learned, and a far more sonorous term, than physic:—but, although a staunch advocate for liberty, I am no *leveller*; and as long as titles and distinctions are conferred upon worth, integrity, and talent, they are highly useful and salutary—obtained through interest and intrigue, they are oppressive and disgraceful—and bestowed indiscriminately upon all, they become honourable to none. What principally attaches intrinsic value to the learned professions, and gives dignity to their members, is, that a certain course of education and study is absolutely requisite. The Physician must have passed through this—there is no byepath along which he could have skulked; but the Surgeon, excepting a long, useless, and often prejudicial apprenticeship, if he wishes to qualify himself for an hospital (not otherwise), need barely know his mother tongue. *He is*, I am aware, generally as well educated as the Physician; but this is all *gratuitous*—it is not required of him, neither is it ensured to those with whom he may associate. If, however, the Members of the College of Physicians choose to combine with those of the College of Surgeons—and instead of remaining distinct and separate,

as Doctors of physic, and having the latter classed with the numerous other professions, to pass under the general denomination of the *medical Profession*—yet it certainly never could have been the intention, when such a tacit agreement was made, (if it ever has been made,) to include in it those, who as notoriously “exchange *physic* for money” as a grocer does sugar.

When it is seriously and positively asserted, that the writer of this article is none other than an *Apothecary*—and that in all probability he will live and die such—some one, to prove by his knowledge of Juvenal, or his having stumbled upon it in a dictionary (it is all one), that he, at least, may be called a member of a learned profession, will exclaim—

—————“*parcit*  
*Cognatis maculis similis fera*”—————

But if he will take the trouble of reading a little farther, he will find, if my memory serve, (for with me Juvenal has long since given place to the pharmacopœia, and cannot therefore be referred to,) that man is an exception to this law or compact—and that therefore I (*IGNOTUS*), being an Apothecary, and an Apothecary a man, cannot be held amenable to it. There is also a wide difference between necessity and choice; and who knows but I may (for there is no accounting for tastes) prefer being an Apothecary at large, to a Surgeon in the Fleet, or a Physician in the Bench?

The word Apothecary is, as I am told by a learned school-master in my neighbourhood, (for he supplies me with my scraps of classic lore,) derived from the Greek word *ἀποθήκη*, “a repository or storehouse, a warehouse;” but how, in the name of Galen, it acquired its present signification, or when—or what connexion can possibly be traced between a warehouse-keeper and a modern Apothecary, unless their being both *wholesale* dealers in their respective articles (but this is far-fetched)—it will require a Galen to inform us.

Pharmacopola owes (on the same authority) its derivation to *φαρμακον*, a medicine, and *πωλεω*, to sell; and in the days of Aulus Gellius (but when he lived, or where, I forgot to ask my friend,) they seem to have made a very proper distinction between a prescriber and a vender of physic. Our forefathers appear to have entertained the same opinion as this “learned Theban:” for they little thought (good honest souls) that those whom the first James (no Solomon, by the bye), in the plenitude of his wisdom, and very likely in consequence of some unfortunate wight having received hellebore

for brown sugar at their hands, separated from their old friends the grocers, and dubbed Apothecaries under a distinct charter, could have progressed so rapidly as in the nineteenth century to become members of a learned Profession, and have the lives of thousands at their disposal; maintaining, at the same time, the anomalous and opposite characters of professional men and "merchants, dealers and classmen."

It is far from my intention, in the course of these observations, to say any thing which can offend either an individual or a body;—I know, and am very ready to acknowledge, that many of my brother Apothecaries are most respectable men, and that the *trade* is both a lucrative and necessary one;—but in my anxiety to avoid offending, do not let me be misunderstood: as *tradesmen*, we are respectable; but as those mule animals (unfortunately and unnaturally prolific ones), Surgeons and Apothecaries, we are insignificant in trade, and contemptible in a profession; the two are utterly incompatible, and a man can no more make them harmonize, than he can make music with a pestle and mortar. I have now, I believe, proved—what perhaps would have been readily granted without all this display of learning—that an Apothecary is "a mere vender of medicines;" and my remaining object is to insist, that he ought still so to remain, notwithstanding the new Act—of which, by the bye, I know nothing, excepting that it cost me ten guineas! and (*horresca referens!*) a sweating examination! The advocates for a middle man in the medical Profession urge many strong arguments in his favour. I for one think both the community and science would perhaps be benefited by his expulsion; but as my present object is not to argue this point, I will admit his utility, and allow him to stand his ground: still an Apothecary is not the middle man that is wanted. Is it not a disgrace to the Profession, and a pest to society, that the one should sanction, and the other tolerate a man, whose sole object is the quantum of medicine that he can pour down his patient's throat—who, instead of calculating the progress which disease may make during the interval, is reckoning the number of draughts which can possibly be consumed before his next visit—who makes out his Christmas bills as long as your arm, and containing as many items as a well-furnished chandler's shop—and though last, by no means least, who being from "his youth upwards intended for this chandler's shop employment, generally receives but a *very limited education*? Let him exist, if he please, connected with the Chemist or Druggist, and earn a livelihood as a "seller of medicines"—impose no restraint—allow him even to

sell advice, as well as physic, to such as may, from motives of parsimony or a defect in judgment, be inclined to purchase;—but do not make a shop-keeper—and in nine instances out of ten a retail one, a dealer in pennyworths—the connecting link between the Physician and Surgeon, two *bonâ fide* professional men. The name is not the objectionable thing, but the occupation connected with that name (still this might as well be appropriate as not); and yet even the occupation is not, practically speaking, so much to be regarded, as the qualifications which it requires, or rather does not require.

A plain substantial tradesman has three or four sons. They are all sent to the same school, and taught “reading, writing, and arithmetic.” The one becomes a farmer, the second follows his father’s trade, the third is apprenticed to a linen-draper, and the fourth to an Apothecary. With the “arts and mysteries” which the three first acquire I am unacquainted; but the great art which the latter learns, is the art of “sending in medicine”—and the most wonderful mystery is what becomes of it all: here he spends five years of his most valuable time!—in what?—in learning to spread plasters, roll pills, put up draughts and compound tinctures! Perhaps, by special agreement, he *visits* during his last year; and what does this amount to?—a few miserable parish paupers, whom he kills or cures, *ad libitum*. He acquires also the noble arts of “bleeding and tooth-drawing.” But it may be said, he has abundance of leisure, which may be turned to good account. It may, and generally is—by gossiping with half the servant girls in the neighbourhood, playing at dominoes with the shop-boy, learning to box of the groom, or if he happen to be of a studious turn, reading novels during his master’s long and daily absence; for it is to be clearly understood, that the agreement to teach, is all “leather and prunella:” what time or inclination has a man harassed day and night in a laborious occupation for this?—upon such a foundation what a glorious superstructure must be raised! He goes to London, and “walks the hospitals;”—that is, with a little money in his pocket, and much less wit in his head—a thorough novel-reading knowledge of the world—and the gentlemanly accomplishments before enumerated. He is suddenly emancipated from thrakdom; and left at large in the great metropolis, to spend his hours either in the bagnio or dissecting-room—the Anatomical or the Sans Pareil Theatre. Be that as it may, he has complied with the letter of the law; and having procured certificates, and regularly submitted to *cramming* and *grinding*, he makes his

appearance at the Hall—answers his interrogatories, translates a sentence in the Pharmacopœia and a Physician's prescription—pays the money, and receives a diploma;—and thus terminates the first stage of his “eventful history.”

It is by no means intended to be asserted, that this is and must be the course of education with every Apothecary: I know many fully equal in every respect to the Divine, the Lawyer, or the Physician; but they are the exceptions, and not the rule: and the statement which I have made is a *correct* one, as far as regards what either the law or the Company requires, or has a right to insist upon. The late Act may, and I dare say will, do good;—those who are empowered to see it enforced appear to be very respectable, well-meaning men—and their examination, which is conducted in an equitable, gentlemanly manner, is better than none at all;—but the object should be, either *radically* (if I may use such a heinous word) to *reform*, or completely *revolutionize*. Half measures are of no avail; and if we wish to see the Profession ranking where it ought, and maintaining a proper dignity and consideration, we shall use our exertions either to make Apothecaries leave off retailing medicines—and getting paid for their attendance by pills, boluses, and mixtures—and receive in lieu a certain stipulated fee,—or to prevent them from becoming Surgeons—and excluding them from the Profession, reduce them to the original venders of medicine, “to whom no sick man will commit himself.” In that case there will be a fair opening for some other go-between, the Physician and Surgeon; and whether such be established, or a *reformed Apothecary* continued, I should propose taking the Physician as the standard, and assimilating the education, acquirements, and examinations of both the Surgeon and this intervening personage to his, which I consider a fair specimen of professional education.

In objection it will be urged, that many a clever fellow, but not possessed of pecuniary means for such an education, would thus be excluded, and his talents lost to mankind and the afflicted. In reply—there is a multitude of other resources for genius and talents; the medical Profession, so far from claiming a monopoly in these articles, affords but a contracted scope for their exercise. The careful plodder is generally most favoured and fortunate: and even allowing that some injury—nay, some injustice—may accrue from it, I must insist, that where one valuable member would be then excluded, twenty not only a disgrace to science, but an actual evil in society, are now admitted.

Example is, however, far before precept; and in proof of my assertions, we have only to regard the *law*, and observe

the improvement which has of late years taken place in it, and *solely* because more obstacles have been opposed to a young man's entrance into it: yet what sensible man thinks this hard, or what tradesman complains because he cannot place his son in the church without sending him to college? These are times for Utopian schemes, and talking about reforms; and my ideas may be thought as visionary as the first, and as impracticable as the last. It is too much the fashion to go into extremes—to be either a demolisher root and branch, or a bigoted opponent of all innovation. If ever an amendment does take place in the medical Profession, it must be a gradual one. The late Apothecaries' Act will improve Apothecaries; but it will injure the respectability of that Profession into which they have, without the least right, insinuated themselves, and from which, as Apothecaries, they ought to be excluded; and could a gradual reform be effected, the medical Profession would, in process of time, rise to a level with the other two—its members would be reduced greatly in number, and augmented beyond comparison in rank and consequence—the Physician, Surgeon, and middle man, would each maintain his proper station, and each be legitimately professional—and those who now enter it only to their own and its disgrace, and the annoyance of others, would be what Nature (if she has any concern in the matter) and education, their birth and early habits of life, intended them for—very useful members of society, in the rank of linen-drapers and grocers.

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#### IV.

*Case of Pertussis.* By T. W. WANSBROUGH,  
Surgeon, &c., Fulham.

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A FINE healthy child, twelve months old, was attacked with violent symptoms of pertussis. The paroxysms were so severe as to threaten suffocation. The disease had existed nearly six weeks when I was called upon to attend. Inflammation of the lungs had supervened. The child refused the breast, and was exceedingly restless and uneasy from dyspnoea. I ordered the warm bath, and three leeches to the scrobiculus cordis, purged her briskly, and ultimately continued with antimonials and expectorants. In the course of twenty-four hours from my first visit, a considerable amendment was observed, the urgency of the symptoms being very much abated. A blister to the chest closed the active measures; and three days after, the inflammatory diathesis completely subsided. The paroxysms of the cough, never-

theless, were still violent, though the frequency of them declined with the concomitant symptoms. In short, the little patient appeared likely to conquer this formidable foe; when, unfortunately, she was accidentally exposed to a current of air, which gave her cold, and increased the cough violently during that night. I again saw her on the following morning; and, unwilling to have recourse to the former measures for her relief, I determined on applying the vapour of tar, the absence of inflammatory symptoms warranting the application. Her breathing was short and oppressed, but the difficulty appeared to arise more from accumulation of mucus in the bronchiæ than irritation. My idea was to bring the remedy in contact with the part or parts affected, and thereby expedite the effect. If, therefore, the remedy were likely to prove beneficial, the fact would be proved and illustrated by ocular demonstration. I decomposed a portion of petroleum Barbadosense, by dipping into it a red hot iron; the end of the common poker answered the purpose conveniently. The child was held over the vapour as it arose, observing not to let her inhale it until sufficiently diluted by a due portion of *atmospheric* air. My little patient no sooner inhaled this gaseous compound, than she exhibited manifest signs of relief. Instead of avoiding the volume of vapour as it arose from the vessel, which I feared would be the case, she willingly inhaled it, and suffered the tar to be placed almost under her nostrils. The effect was conspicuous, in relieving the pressure under which the little sufferer laboured: expectoration was promoted, and rendered nearly free from effort, by this remedy. In short, after six exhibitions of the vapour, the cough almost ceased; and without the aid of any auxiliary the child perfectly recovered.

I feel satisfied that I am indebted to the efficacy of *carburetted hydrogen* and *oxygen* for the recovery of this case. The conspicuous, and, I may safely say, the surprising effects of this remedy, strongly stimulated me to communicate them as they occurred to me, through the medium of the *REPOSITORY*, to the notice of the Profession; when I happily experienced the heartfelt satisfaction of preserving, by the same means, from threatened destruction, *my own child*, an infant three months old. Accidental exposure to cold produced catarrh; the breathing was short and difficult, attended with sensible accumulation in the air-tubes of the lungs, which the child was unable to expectorate. These symptoms increased rapidly. There did not exist any other excitement than the difficulty of respiration. The distress of the infant excited feelings in my breast which can only be

appreciated by a parent. I had already lost one child from pertussis, in which the vapour of tar was *never thought of*; another fell a victim to hydrocephalus from metastasis; and this last appeared hastening to form an addition to the number. From her birth she was delicate—smaller, considerably, than the generality of infants at her age. Leeches were inadmissible; not only because of the absence of active inflammation, but also from the apprehension of depleting the already debilitated system. Emetics and expectorants were unavailing; the former, equally objectionable with leeches. Blisters were inadmissible, from the addition thereby of irritation to the system. Under these conflicting circumstances, my distress of mind may be easily conceived. I was led to the adoption of the warm bath; but the agitation it occasioned obliged me to relinquish all thoughts of a repetition. At length, worn with fatigue and suffering, at the end of three days, the poor little sufferer *refused the breast* in the morning; and I then concluded the termination of her distress by a fatal issue would, ere long, arrive. At this crisis, I had recourse to *tar vapour*, as mentioned in the former case. I applied it at a distance, whilst the child lay in the mother's arms. Breathing quick and short, with frequent interruption from what appeared to be accumulation in the bronchiæ. The little creature seemed revived the instant she inhaled the vapour, and made an effort to cough! Delighted at the effect, I placed the vessel nearer to her nostrils, and continued the fume for about three minutes, when a cough intervened, followed by an immediate vomiting of viscid phlegm and mucus, that nearly suffocated her. The quantity evacuated from the lungs and stomach saturated two handkerchiefs. Complete exhaustion for about a minute succeeded this operation; and, to my inexpressible joy, the little patient took the breast heartily afterwards, and sunk into a profound sleep, which lasted two hours: she awoke refreshed, and considerably relieved. Encouraged by this unexpected and happy success, I continued the application of the vapour for a week, twice in the day; when, from the decided remission of symptoms, I ceased the further use of it. The first six applications were succeeded, each time, by a copious expectoration, which always ended in an abatement of the previous symptoms.

About a month ago, my little girl again took cold, when the difficulty of breathing returned, attended by wheezing and cough. Recourse was again had to the same remedy, which procured relief the first time it was applied, by producing sickness, and a copious expectoration of phlegm and mucus. The second application was not so successful; symptoms

of an inflammatory type supervening, with fever. The child being now six months old, and considerably mended in constitution, I exhibited antimonials, and applied a blister to the chest. The febrile symptoms remitted, and an amendment followed. The support which the mother had afforded now declined, both in quantity and quality; and we were necessitated to adopt another source of nourishment, but through the same medium, viz. the breast. Change of air, at the same time, has, in conjunction with her nourishment, happily restored the infant to our anxious hopes. After the subsidence of the inflammatory action, the vapour was applied three or four times, and with confirmed success. The child is now perfectly well, and is gaining flesh.

Master Alfred Wallis, the little fellow whose case is recorded in the REPOSITORY, Vol. XIV., page 182, three months since manifested symptoms of asthma. His father, hearing me often make mention of the success I had experienced in the application of the vapour, in pneumonic affections, requested I would try it with the boy. He was unwilling that any active measures should be resorted to, the child having so recently recovered of phthisis. The state of the little patient was as follows: his breathing oppressed; cough frequent and violent, *without any* expectoration; each paroxysm produced suffusion of the eyes, and florid countenance. The idiosyncrasy of system (hydrocephalic) led me to apprehend encephalic congestion. His rest was much disturbed by the cough. Upon placing the hand between the shoulders, and on the chest, the wheezing was very sensibly felt; and the child seemed to breathe, so to speak, as through a sieve; such was the accumulation of mucus in the air-tubes of the lungs. Desirous of affording the vapour a fair experiment in this case, it being more closely allied to the class of pulmonary affections, in which it appeared most unequivocally applicable, I commenced the trial; and my patient inhaled the vapour, diluted as in the two former experiments, from the 14th of August to the 23d of September, regularly; then every other day, and finally ceased on the 28th of October. The first eight or ten inhalations produced powerful action of the lungs; and the quantity of mucus expectorated exceeded belief; and it gradually subsided, whilst the pulmonary viscera seemed to expand, under the influence of the new atmosphere. My little patient came *voluntarily*, during the whole period, as he used to say, "to get rid of the phlegm." It is remarkable that the child gained flesh whilst under treatment. Not a single ~~medica-~~ment of any description was exhibited to him, as I was

determined to witness the unassisted effects of the vapour. He is now quite well; and when he has any "wheezing," as he terms it, a dose of tar vapour sends it away. By the by, he has had but *one* dose since he left off his regular attendance.

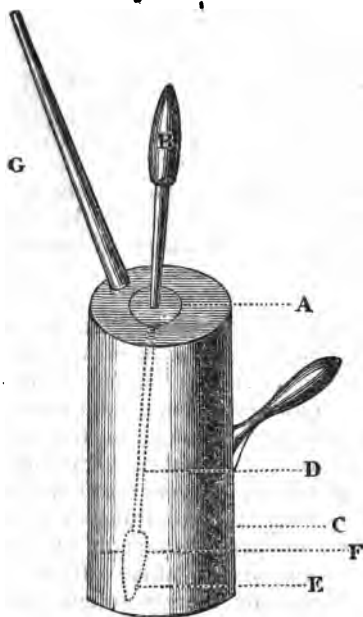
Upon the whole, then, it may, I presume, be inferred, from the cases here adduced, that the efficacy of carburetted hydrogen, produced in the manner I have detailed, possesses decided advantages in chronic and in recent cases of pulmonic affections, before the accession of active inflammatory symptoms. In the few cases that have come under my observation, wherein I have applied it, *immediate* relief and ultimate benefit have accrued to the patient. The only instance of failure I have experienced, was in the second attack of my own child: there, I candidly confess, my former success rendered me blind to the existence of active symptoms, until I perceived them increased by the stimulating nature of the application. Yet, after the inflammatory action was removed, the effect of the vapour was certainly efficacious: so that, it appears, in cases where the lungs are under the influence of an inflammatory diathesis, the exhibition of this remedy is improper; but in chronic pulmonary affections, and also subsequent to the existence of increased arterial action, I have no doubt of the superior efficacy of this gaseous compound. I will not presume to enter into any thing like a rationale of its qualities—that I leave to abler pens than mine: I would only offer *facts*, with such comments merely as arise from a due consideration of the importance of the subject; feeling, as I do, that many children may be yet saved from premature death, by the adoption of this simple yet powerful remedy, even by the parents themselves. Should I be so fortunate as to stimulate, by my humble efforts, one individual to a successful application of the *vapour of Barbadoes tar*, my object will be attained, and I shall rest satisfied with the result of this communication.

The mode of administering the vapour I adopted in the case of Master Wallis and my own child, which I have since found exceedingly applicable to infants, is simply this. A vessel of tin, resembling a coffee-pot, contains the tar: the size is immaterial; twelve inches by four will suffice for the generality of cases: a conical tube issuing from the top; a corresponding opening on the opposite side, to allow a draft, that the vapour may ascend. The iron is what may be obtained at any ironmonger's: laundresses use it for what they term the *Italian iron*. This heater, being attached to a firm iron rod, terminating in a wooden handle, is all together eighteen inches in length. The cover or lid of the pot is

made to slide on this rod; so that when the heater is made hot, upon being immersed into the tar, the cover fits on, and prevents any escape of vapour. The tube of the pot is then kept to the nostril, at the proper distance, that the vapour may be inspired.

Care must be taken that the heater be not red hot, in which case, ignition of the gases, attended by an explosion, will happen, and may be of serious consequence. This happened once with me: I therefore caution those who use the remedy, to observe the degree of heat ere the heater be immersed in the tar: neglect of this observance on my part occasioned ignition, and burnt the eye-lashes and eye-brows of my little patient Wallis.

*The following is a delineation of the Instrument just referred to.*



A, The cover, which fits into the top when the heater is put into the tar.

B, The wooden handle of the heater.

C, The situation of the opening, above the size of half a crown, an inch and a half.

D, The iron rod of the heater.

E, The heater.

F, The height of the tar, beyond which it ought not to rise.

G, The tube, which is eighteen inches long, for the convenience of guiding the apparatus in conveying the vapour.

The inclination of the tube from the plane of the cover may be at pleasure.

I would observe, that the exhibition of the vapour never produced vomiting, whenever I have applied it, unless the bronchiæ were loaded with mucus; and in either case, viz. whether there existed mucus or not, the remedy invariably operated as an anodyne, producing sleep.

[We are much obliged to Mr. WANSBROUGH for the above communication. It appears to us, although we have had no experience on the subject, that the tar vapour might be useful in the last stages of croup, when the trachea and bronchiæ are plugged up with secretion.—An erratum occurred in Mr. W.'s last communication, Vol. XIV., page 469; the word *compression* is printed for *concussion*.—Ed.]

## PART II.

### ANALYTICAL REVIEW.

#### I.

*History and Method of Cure of the various Species of Palsy; being the First Part of the Second Volume of a Treatise on Nervous Diseases.* By JOHN COOKE, M.D., F.A.S., &c., &c.

CONNECTED with the consideration of palsy there are many *sub-judice* particulars; for nervous, much more, perhaps, than any other part of pathology, has *abdomina* written on its forehead. You see a limb, or a portion of the body, deprived of its wonted capacity to feel and to originate motion; and it is natural to inquire, What is the actual condition of parts or whole, to constitute this deviation from the natural and healthy state of things?—does the disorder exist in the nerve or nerves of such affected organ?—or is the induced irregularity an effect of encephalic derangement?—if the malady be merely topical, or whether it is or is not, what is the precise condition of the nervous substance, or its enveloping membranes, under the attack?—is it always and necessarily the same? Suppose the derangement to have its origin from, and essence in, the brain, how are we to explain the fact, that the topical disturbance of function takes place at a distant part from this organ, without perceptibly affecting the intermediate line of nervous communication? Again: is the brain disease which produces palsy of a distant member always identical—the palsy itself,

in measure and locality, being apparently the same? What is the *organic* connexion between sensation and motion? Are these faculties developed and displayed by different or the same fibrillæ of nerves? Palsy, it is well known, happens upon a part, while the encephalic affection upon which it has depended is, as far as appearances assist us in determining the point, on the side of the brain opposite to that of the disordered part. Why is this the case?—and if it depend upon some peculiarity in the mode of union between brain and nerve, why does it not occur invariably, or without exception?

These, we repeat, are among the items which might be brought in charge against the assumption of the pathologist, who should maintain that the connexions of structure and action, natural and morbid, are always to be satisfactorily made out.

That an irregularity in the display of the sentient and moving powers of the body should be caused by a rush of blood upon the affected organ, would seem natural enough to infer, from an observation of the laws which regulate the vascular actions, and from actually finding at times, when an examination is instituted after death, that a more than due proportion of the vital fluid is distributed to the deranged nerve, or its coverings: but *post-mortem* displays have thus much of deception in them, that you are not able positively to predicate whether they are cause or effect; and it is moreover a fact, that paralytic seizures at times are made under circumstances which, so far from denoting plenitude, are, on the contrary, actually indicative of deficiency in the quantum of the fluid in question.

Whether all this uncertainty and irregularity are sufficiently recognised, either in speculation or practice, we are not now to stop and inquire; our business, on the present occasion, being merely that of presenting to our readers an abstract of the interesting volume before us, in which several of the above queries are stated with the fidelity of an historian, and discussed with the candour and ability of a philosopher.

This treatise of Dr. Cooke constitutes the first part of his second volume on Nervous Diseases. Its contents have been slightly anticipated in our notice of the Lectures delivered by Dr. C. at the College of Physicians. Our author first treats of the definition, distinction, and general history of paralytic disorders. He then proceeds to the consideration, separately, of hemiplegia, paraplegia, and paralysis partialis. The succeeding sections are on the causes, diagnosis, prognosis, appearances on dissection in, and treatment of palsy.

"Palsy," says Dr. Cooke, "is a disease in which there is a diminution or entire loss of the power of voluntary motion, or of sensation, or of both, in some particular part or parts of the body without coma." It sometimes comes on suddenly; at others, it is preceded by premonitory signs, such as a faltering inarticulate voice, drowsiness, forgetfulness, a slight delirium, a dimness of sight or double vision, trembling, a numbness gradually ascending to the head, frequent yawnings, weakness, distortion of the mouth, and a disposition to faint; the vital and natural functions are but little impaired; the actions of the heart and lungs are, indeed, sometimes more languid, and the secretions and excretions less regular than in a state of health; but this is not usually the case.

On the opinion that parts under palsy become colder than they are in a state of health, Dr. Cooke introduces the following remarks:—

"Mr. Henry Earle, who has paid particular attention to the subject, and who has made some ingenious experiments relative to it, is of this opinion. He thinks that a limb, deprived of due nervous influence, is of a much lower temperature than natural; that it is incapable of supporting any fixed temperature; that it is peculiarly liable to partake of the heat of surrounding media, and cannot, without injury, sustain a degree of warmth which would not be at all prejudicial to a healthy limb. In examining paralytic limbs, Mr. Earle invariably found them colder than any other part of the body, unless they had been kept artificially warm; and he mentions twenty-five cases in the Bath Hospital, in which paralytic limbs were found to be below the natural standard.

"Dr. Abercrombie is inclined to believe that paralytic parts do not become colder than natural. In a communication with which that gentleman has favoured me on this subject, he mentions the well-known fact, 'that living animals have a remarkable power of accommodating themselves to varieties of external temperature, though exposed to great degrees of heat and cold; while inanimate bodies, placed in the same circumstances, are much heated in the one case, and much cooled in the other.' Now this power of preserving a medium temperature, Dr. Abercrombie thinks is partially lost by paralytic limbs, so that they are more heated when exposed to heat, and more cooled when exposed to cold, than parts which are in a healthy state. He had long ago observed, that paralytic limbs are sometimes warmer than sound limbs, but without being able to account for it. On attending to this principle, which appears to him to apply to it, it would be very easy, he says, to ascertain it by direct experiment. He mentions the following curious fact, in illustration of his doctrine on this subject. 'A medical gentleman, on visiting a paralytic patient, was astonished to find the paralytic arm so intensely hot that he could not touch it. He was at first very much surprised, but

found, upon inquiry, that the patient had, by the advice of a friend, applied to the arm a quantity of very hot bran, or something of that kind very hot, which had been removed a short time before his visit. If Dr. Abercombie's notion be correct, that paralytic limbs lose their power of preserving their temperature, or, in other words, if their power of resisting changes of temperature be lost, it appears to me that the temperature of such parts would be less than that of other parts exposed to a medium of heat inferior to that of the human body, which is always the case in temperate climates."

Dr. Cooke then goes on to notice the softness, flaccidity, and, at times, apparent wasting of paralytic limbs, and adverts to the deterioration that the disorder produces in the mental energies: it is well known that in this particular, as well as in the more simple faculties of sense and motion, the utmost variety takes place, and that, without any assignable cause; some paralytic individuals losing their recollection of things, others of words, some the power of speech, others the power of expressing themselves in appropriate language, and using one term in place of another and proper one. Did these occurrences take place with *anatomical* regularity, evidence would be afforded by them, that the doctrine of partial and local faculties has its foundation in truth; but, as we have above intimated, there is any thing but a perceptible correspondence between parts deranged and functions disordered. A *total* change in disposition and conduct is not seldom observable as a consequence of a paralytic attack. Persons, as Dr. C. tells us, naturally mild and placid, have become peevish and irritable under its influence, and, what is still more curious, an opposite change is occasionally remarked—varying from irritability and peevishness to calmness and placidity.

"I had, several years ago," says our author, "an opportunity of seeing an illustration of this remark in the case of a much respected friend. The person to whom I allude had always, up to an advanced age, shown an irascible and irritable disposition; but after an attack of palsy, his temper became perfectly placid, and remained so until his death, about two years afterwards."

Courage has likewise been changed by palsy for cowardice; and persons of the strongest mental powers have become so enervated as to weep like children. "O homme qui prends arrogamment le titre de *roi de la nature*, toi qui mesures la terre et les cieux; toi qui par ta vanité t'imagines que le tout a été fait, parce que tu es intelligent; il ne faut qu'un léger accident; qu'un atome déplacé, pour te faire périr, pour te dégrader, pour te ravir cette intelligence dont tu parois si fier."

“ The duration of palsy is very different in different cases ; sometimes a considerable degree of amendment is observable in a few days ; but more frequently a favourable change is gradual and very slow. In cases of persons recovering from palsy, I have often observed, that the parts most distant from the head are first restored to sense and motion, (this is a most curious fact in pathology.) In hemiplegia, it almost always happens that the power of the leg returns long before that of the arm. I have even seen more than one case in which the arm of the affected side has remained paralytic for several years after the restoration of the leg. An eminent French physiologist has made similar observations, and remarks, that in the hemiplegiæ which supervene on apoplexy, the leg almost always *loses* its motion first.”

Of *Hemiplegia*.—This designation seems to have originated with Paulus Ægineta ; neither Hippocrates, Galen, nor Aretæus, ever having used the term, although they must have been familiar with the fact of paralytic seizure affecting the whole of one side. Hemiplegia is generally preceded by more or less of apoplexy. “ M: Serres, who has paid great attention to all circumstances connected with this disease, says that the face, just before the attack, becomes discoloured, the cervical and facial veins swell, the action of the tongue becomes impeded, the senses of sight and hearing become indistinct, the patient loses all sensation and knowledge of his actual state, and if standing, he falls down on the side that is to become paralytic.” Serres even goes so far as to say, that before hemiplegia the thorax and lungs are unequally dilated ; one side of the chest being as if motionless, whilst the other side is in a state of redoubled activity ; and hence we may prognosticate, he says, which side is about to become paralytic. Sometimes, as is, indeed, observed by Aretæus, the internal organs, as well as external muscles, become affected with the disease ; and either a total *inirritability*, or a morbid susceptibility to purgative medicines, is observable. The liver too partakes, in many instances, of the disordered action in a marked degree. Morgagni relates the curious fact, of an old man who was affected with palsy on the right side, and at the same time with jaundice ; the jaundice being confined to the paralytic side so accurately, that even the right part of the nose was yellow, while the left retained its natural colour. In some cases, the hemiplegiac disorder is what has been called *transverse*—that is, the arm on one side, and lower extremity of the other, shall be the members implicated in the disease. Sauvages gives an instance of this, and observes, that the rationale of it is obscure. How does it accord with the hypothesis of nervous decussation, immediately to be referred to ?

“ Ramazzini speaks of a person, in whom one leg had lost its feeling, but not its power of motion, and the other its motion, but not its feeling.” Intermittent hemiplegiæ have been observed.

“ M. Serres mentions a double hemiplegia, which he describes as a disease in which the whole muscular system, except what relates to deglutition, is deprived of motion. In whatever degree the patient is stimulated, whether by blisters, or sinapisms applied to the limbs, or even by the application of the actual cautery, no contraction can be produced; the muscles appear to be passive, remain without motion, either relaxed, or in a forced and permanent state of contraction. On dissection in a case of this kind, two recent cavities were observed in the brain; one in the central part of the left lobe, close to the thalamus opticus and the corpus striatum, the other in the right lobe, in the bottom of the corpus striatum, having extended to the corresponding ventricle.”

Among the anomalies of hemiplegia may be likewise enumerated those in which it is observed in combination with convulsions, or alternating with them. The disorder is sometimes not of many days' standing, but much more frequently the progress of recovery is very slow. A *degree* of amendment in many instances takes place, and then the derangement continues stationary for years. Death, after these disordered states, is generally sudden.

*Paraplegia.*—This word is of frequent occurrence amongst ancient writers; but it was never used by them in the sense in which the moderns employ it. Hippocrates by paraplegia designates all paralytic affections which occur as a consequence of apoplexy. Aretæus uses the word to denote a remission of sensation and motion in a part. The moderns apply the term to express a paralysis of the lower parts of the body, the loss of sensation and motion being chiefly observable in the pelvis and inferior extremities. It arises from various causes, either acting in the brain or the spinal chord. In some instances no assignable cause can be traced; a diseased state of the spine is, however, the most frequent source of the disorder. When it results from a constitutional or internal complaint, the accession of the disorder is for the most part gradual. The spinal affection of which Pott, Copeland, and others particularly speak, is generally preceded by languor, listlessness, and weakness in the knees. As the malady advances, a difficulty in properly directing the feet is experienced; and an involuntary crossing of the legs, with frequent tripping or stumbling, are observable; and the legs or thighs are found to have lost a good deal of their sensibility, and to become useless for the purpose of motion. Dr. Cooke is of opinion, that from Galen's description of

spinal disease, in the sixth chapter of the fourth book *De Locis Affectis*, he was acquainted with that disorder which Pott is known to have described so faithfully; but encephalic or nervous paraplegia, if we may so designate the states, are those to which the attention of the Physician is principally summoned.

“ This loss of sensation and motion in the lower limbs, Dr. Baillie thinks, more especially occurs at the middle or more advanced age, and more frequently in men than in women. It is accompanied either by some feeling of pain, or giddiness, or sense of weight in the head, or undue drowsiness; and vision is often more or less impaired: sometimes the sight of one eye is almost entirely lost, and its pupil appears dilated, as in *gutta serena*; and occasionally there is a paralytic dropping of the upper eye-lid of one eye: sometimes the affection of the brain is marked by a defect in the memory, and a want of the ready exercise of the general powers of the mind: sometimes one or both of the upper extremities are affected more or less with numbness, and with a feebleness in their motions, when no disease whatever can be discovered in the cervical parts of the spine. These circumstances, Dr. Baillie thinks, afford strong evidence that the disease exists in such cases within the cavity of the skull; and that it consists of some mode of pressure upon the brain.”

Our author, however, states, that in the cases which he has seen of paraplegia, he never recollects this train of symptoms marking disease in the brain, with any like the regularity described by Dr. Baillie. Paraplegia is not subject to so many anomalous varieties as is hemiplegia. “ Its termination, whether favourable or unfavourable, is generally slow, and it is sometimes protracted to a great length of time.”

*Paralysis partialis*.—Almost every part and organ is obnoxious to paralysis, or a loss or derangement of sense and motion;—of sense, as is instanced in affections of the olfactory nerves, of the retina, of the gustatory nerves, of the auditory nerves, and of the nerves of touch; of motion, as is shown in paralysis of the eye-lids, the muscles of deglutition, organs of speech, the urinary bladder; “ and the want of motion in particular parts, from the effects of lead.” The organs of the vital and natural functions may be also affected in the same way.

It has been stated—indeed, it is universally known—that in palsy sensation very often remains when motion is lost; “ and sometimes, though very seldom, we observe that motion remains when sensation is lost.” What is the rationale of this fact? Galen tells us, that motion being active, and sensation passive, and consequently a greater power being required for the former, the latter may remain when the former is gone, sufficient energy being left for sensation.

When motion remains without sensation, the same speculatist remarks, that sensation being superficial, and motion deep-seated or muscular, an injury done to the surface may interfere with the feeling, while the moving power escapes. "In another part of his work, Galen speaks as if he inclined to the opinion of Erasistratus and Herophilus, who taught that nerves are of two kinds, one for sensation, the other for motion." Forestus, Haller, Sauvages, and Borelli, adopt with modifications the sentiments of Galen, with respect to the greater powers required for motion than sensation; while Van Swieten embraces the notion of Erasistratus, that the nerves of feeling and those of motion are distinct.

"I do not," says Dr. Cooke, "find, in the writings of the physiologists of the present day, any investigation of this question; but Dr. Wilson Philip, in compliance with my request, has given me his opinion upon it. Dr. Philip, who has carefully studied the nervous system, says, 'I think we must admit that the bundles of nerves, going directly from the brain or spinal marrow to any part of the body, contain nerves of two descriptions, one set adapted to convey the dictates of the will, the other to convey impressions from the part to the sensorium. This I think more probable, than that impressions move backwards and forwards in actually the same channels: one of these opinions must be correct. If the former is so, there is no difficulty in accounting for the feeling being lost, and the power of motion remaining, and *vice versa*. Indeed these phenomena of disease seem to me to go some way towards proving the former opinion. These observations may perhaps be applied to all nerves, but in other respects the ganglion nerves seem to obey laws very different from those which come directly from the brain and spinal marrow.'

"Mr. Charles Bell, whose physiological opinions deserve great attention, has also, in compliance with my desire, favoured me with his sentiments on this question. The nerves of sensation and motion, he says, 'are bound together in the same membranes, for the convenience of distribution; but there is reason to conclude that they are distinct through their whole course, and as distinct in their origin in the brain, as in their final distribution to the skin and muscles; why then should we suppose that they are similarly affected in diseases of the brain? Even nerves of the same class, viz. the nerves of voluntary motion, are not affected in the same degree by disorder of the brain. When there is effusion upon the membranes of the brain, from excessive inebriety, or dropsical effusion of any kind, the muscles are influenced unequally; and it is remarkable that those muscles, and consequently those nerves, which are immediately under the influence of the will, are first affected or debilitated in the greatest degree, where there is a general disturbance of the brain. The slighter disorders affect the muscles of the eyes; in a greater degree, we shall see palsy of the face; in a still greater degree, we find the muscles of the limbs unequal to their office. The muscles of respiration are next affected; and the fibres of the hollow viscera retain

their office whilst there is life. If nerves of voluntary motion are thus differently affected according to the distinction of their functions, we need not be surprised that nerves, in all respects so distinct as those of motion and sensation, should be differently affected by what appears to us a general and uniform affection of the brain. Besides, if it be as I have stated, that the nerves are different in their origins, though combined in their course, for example, that the ulnar nerve of the arm, being a nerve of the muscles, and also of the skin, has two roots, one connected with that part of the brain which receives sensation, and another with that which gives out the mandate of the will, we can readily conceive, that a partial injury of the brain, a clot of blood for instance, may cut off one root, and consequently one of the functions; whilst the other function of the nerve remains entire: but I must allow, that this appears rather too mechanical an explanation; and I return to my first position, and allege, that the different functions of the brain are variously influenced by the same cause. I have repeatedly made a dissection of the brain in the case of acute hydrocephalus, when the ventricles were largely distended, where there was a free communication betwixt the lateral cavities, and an equal diffusion of the water: here we might have expected that there would be a general oppression; but so far otherwise, the sides of the body were differently affected; whilst one side lay immoveable, the other was in continual motion. The arm and leg of one side were continually convulsed; the muscles of one side of the face agitated; and the eyes and tongue rolling, but always with an inclination to the same side which was convulsed. I confess to you, that, witnessing so different an effect as that of palsy on one side, and convulsion on the other side of the body, from one and the same cause operating on the brain, the subject has appeared to me so obscure and difficult, that I have never ventured to grapple with the question; and I send you these crude remarks, to show you how willingly I would give you assistance if I could.'

"If we could show that the nerves of sense agree in their origin and appearance through their course, and differ from those of motion in both these respects, whilst, at the same time, they agree with one another, there would be a stronger ground for the distinction supposed betwixt nerves of sense and of motion; but, till this be demonstrated, the question must be considered as involved in great obscurity.

"The opinions of Dr. Philip and Mr. C. Bell, in some respects similar to those of Erasistratus and Herophilus, seem to receive some support from observations made respecting the nerves of the organs of sense.

"We see, for the immediate purpose of vision, the optic nerves distributed in very minute ramifications, over the retina of the eye, where they form a sort of nervous pulp, whilst the nerves for the various motions of the eye, the oculorum motores, the pathetici, and the abducentes, have no resemblance to the optic nerves, either in their origin, their appearance, their course, or their distribution. The nerves of the organ of the sense of smelling, also differ in various

respects from those which supply nervous power to the muscles of the nose.—The pair of nerves called auditory consists of two parts, the *portio mollis* and the *portio dura*; the first of which is distributed through the internal ear for the sense of hearing, whilst the other goes to the muscles of the external ear and face, for the purposes of motion.—The *muscles* of the tongue are supplied from the nerves of the ninth pair; while those which go to the *papillæ* of the tongue, for the sense of taste, are derived from a twig of the inferior maxillary branch of the fifth pair; and in like manner we find, as Galen has indeed remarked, that the *papillæ* of the skin, the immediate instrument of the sense of touch, are supplied with nervous power from sources very different from those which furnish nerves to the superficial muscles\*.”

*Causes of Palsy.*—These are, in the general way, the same as those of apoplexy, both as it respects predisposition and excitation. It would, however, seem that changes of temperature and other sources of disease may occasion a paralytic seizure of a part, without the intervention of encephalic malady, and even without implicating the spinal chord. When the disorder arises obviously as a consequence of brain affection, of what nature is that affection? Pressure on the brain has generally been considered the immediate source both of apoplectic and paralytic seizure; but this doctrine has been doubted by some, and recently questioned in a formal manner, by M. Serres, who, in order to prove the negative of the proposition, tried the effects of extravasating blood within the cavity of the cranium upon dogs, without thereby inducing any apoplectic symptoms. He likewise made artificial cavities in the brain, without occasioning somnolency or stertor. Hence he concludes, that “effusions of blood do not produce apoplexy, whether lodged between the cranium and dura mater, or between that membrane and the brain;” and he asks, Has a constant agreement betwixt the accession of apoplexy, and the formation of effusion been observed? Does the doctrine of compression from effusion account for the formation of apoplexies, their progress and termination in death or in recovery? On dissection, serous, sero-sanguineous, and bloody effusions, have been found within the cranium, without any symptoms of apoplexy preceding death. How is this to be accounted for? Can a cause exist without an effect? Apoplexies, we are told, are sometimes in their course subject to *paroxysmal revolutions*. How is this to be understood, on the supposition

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“ \* Etmuller observes, Credibile est, papillas cutaneas esse tactûs organum, ideoque hic ratio reddi potest, cur superstitie motu sensus potest oboleri, viz. quia motus per nervos fit, sensus per papillas hasce.”

of compression from effusion? It is well known that apoplexies, accompanied with effusion, may be cured. In these cases, what becomes of the effused fluid? Is it absorbed; or does it remain after the cure? Upon the whole, M. Serres infers, that effusion, when it does occur and cause compression on the brain, is the effect and not the cause of the fit.

M. Serres has other views of the apoplectic phenomena, which are still more original and peculiar to himself. He assumes, that the complaint appears in two different forms—the one simple, without palsy—the other always attended with more or less of paralytic disorder. Now, in the first of these cases, he says the malady is *meningeal*; in the second, *cerebral*. In the former, the substance of the brain is unimpaired, while the membranes are disordered, and frequently fluids of various kinds are effused. In the cerebral, the brain is altered in its structure, but no fluids are effused: and even the effusions which do take place, as a consequence of meningeal irritation, are mere effects and not causes of the paralytic derangements. Dr. Abercrombie's opinions are also, in some measure, allied to those of M. Serres. He (Dr. A.) remarks, that “Palsy has been generally supposed to be connected with pressure upon the brain. The facts which I have mentioned, seem to discountenance that idea, and to show the disease dependent upon various and very different morbid conditions of the brain, some of them the very reverse of pressure.”

Dr. Cooke very properly, as it appears to us, allows that there is a good deal in these speculations and inferences of M. Serres worthy the attention of pathological inquirers; but that he carries his proposition out into too wide an extent, when he maintains, that pressure can in no case be the cause of the apoplectic or paralytic state:—

“He has shown that blood has been effused in various situations within the cranium, without apoplexy; but he cannot hence fairly conclude that effusion never produces the disease. Since he admits that there is effusion in the meningeal apoplexy, how can he prove, even allowing it to be the consequence of what he calls irritation of the meninges, that the irritation, and not the effusion, is the immediate exciting cause of the disease? If compression by fluids were the cause of apoplexy, M. Serres says there could be no apoplexy without effusion; but the want of logical precision here is evident, unless we grant, what I believe few physiologists would admit, that compression from fluids is the *only* cause of the disease. That some degree of pressure may be made on the brain without producing either coma or apoplexy, may be conceded as proved by M. Serres's experiments; but it by no means follows that a different

or greater degree of pressure would not produce these diseases; indeed, both observation and experiment decidedly show that compression does sometimes, according to its degree, give occasion, first to somnolency, and then to complete apoplexy. It is a fact perfectly well known, that after the operation of the trepan, pressure on the part deprived of cranium produces these effects: and innumerable instances might be adduced in which compression by depressed bone after accidents, has given occasion to coma and apoplexy.

"These observations are confirmed by direct experiments which lead to positive conclusions, not to negative conclusions, like those of M. Serres. M. Portal trepanned the cranium of a dog; he compressed the dura mater and the brain, sometimes with his fingers, and sometimes with a bouchon of linen or of wood, and sometimes by water or mercury poured through the cavity made in the cranium. A funnel was adapted to the opening of the cranium, which was filled with water or mercury, so as to produce a graduated compression, more or less strong, upon the brain. In whatever way the experiment was made, it instantly produced the following effects:—The animal ceased to bark; if the compression was increased, it became agitated by strong convulsions; if still further increased, a profound sleep took place, the convulsions ceased, and the respiration became stertorous. If the pressure was diminished, the breathing became more free, and the convulsions returned. This experiment was very often repeated by M. Portal, and always with the same results, except where the compression of the brain had been so strong, that its substance had been weighed down, *affaissée*."

Dr. Cooke might have referred to the celebrated Parisian beggar, who, having had a considerable portion of the brain laid bare by the trepan, was wont to make himself comatose and stertorous at pleasure, by pressure upon the denuded surface. We think, however, that Serres's investigations will prove of service, if it be only that they provoke inquiry as to the different conditions of the encephalic mass, prior to the induction of apoplexy or palsy. It has hitherto, for the most part, been too precipitately inferred, that all the Practitioner has to do, in cases of apoplectic seizure, is to divert the current of blood supposed to be poured out on the brain into different channels. But we intend, in the present paper, not to be commentatory, but merely analytical reviewers; and must check our inclination to engage in speculative, or rather critical inquiries.

While hemiplegia, as above intimated, seems to depend chiefly upon morbid affections in the head; paraplegia, as likewise before inferred, is mostly connected with disordered states of the spine and its connexions; but there are

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\* Portal, Cours de Physiologie Expérimentale, p. 248.

several diseased conditions implicating the sentient and moving organs which appear topical merely — such as an inflammation of the nervous sheath, or substance; long continued exercise of particular muscles: and there are others merely sympathetic upon irritation or disordered action in the first passages. In the changes which often occur with respect to the bulk and other circumstances of a paralytic limb, Mr. Charles Bell thinks we have evidence of the nervous derangement being confined to the part particularly affected. The palsy occasioned by lead seems to operate upon the nervous system partially, or without necessarily implicating the brain.

In the section of the book now under notice, Dr. Cooke enters into an inquiry respecting the hypothesis of nervous decussation, or rather engages in a detail of the sentiments of both ancient and modern speculatists on this point; and as this constitutes an interesting subject for disquisition, we shall present to our readers the author's own statements respecting it. When diseases of the brain are evidently the source of palsy, the disordered condition, in by far a majority of cases, displays itself in the side opposite to that of the brain affection: —

“ Physiologists have been much perplexed in endeavouring to explain this fact. They have very generally attempted to account for it by supposing that a decussation, or crossing of the nerves takes place in their course; but there has been much difference of opinion with respect to the place and manner of this decussation. Aretæus, speaking of palsy, observes, ‘when its origin is in the head, if on the right side, the parts on the left become paralyzed; if on the left, those on the right are affected.’ The cause of this, he says, is a change which takes place in the beginning of the nerves; for the right nerves do not go, in their course to the right, straight on to their ends; but at their origin they take a direction towards each other, so as to decussate in the form of the letter X\*. Lancisi refers this phenomenon to a decussation of fibres in the corpus callosum, and Santorini in the corpus pyramidale.

“ Some have thought that a decussation takes place in the medulla oblongata, or the medulla spinalis. Sæmmering says, immediately below the origin of the lingual nerves, medullary fibres begin to cross each other; but neither he, nor Haller, who entertained the same opinion, have adduced sufficient ground for it.

“ Dr. Yelloly, in an ingenious and elaborate paper, published

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\* “ Ην δὲ κατάρχη, ἐπὶ μὲν τοῖσι δεξιοῖσι τὰ λαιὰ παραλύεται, δεξιὰ δὲ ἐπ’ αἰσθητοῖσι· αἰτίη δὲ τῶν ἀρχῶν τῶν νῦρῶν ἡ ἰσχυρὰ· οὐ γὰρ κατ’ ἑξῆς τὰ δεξιὰ ἐπὶ δεξιᾷ ὁδοὺ παρὶν μίσηφι περάτῳδι, ἀλλ’ ἑμφυτα τῇ ἀρχῇ εὐθὺς ἐπ’ ἐκείνα φοιτῇ, ἀλλήλοισι ἐπαλλαζόμενα εἰς Χιασμὸν σχήματος. — *Aret. de Caus. et Sympt. Morb. Diut. lib. i. c. 7.*

in the first volume of the Transactions of the Medico-Chirurgical Society, discusses this subject very minutely. 'From the accounts,' he says, 'which I have given of the observations made with regard to the structure of the medulla spinalis, by some of the principal authors, there seems to be no sufficient evidence for believing that there is a regular decussation of the fibres of this body, or a propagation of nervous influence from one side of it to the other. Galen states, with precision, the effects of dividing the spinal marrow at different parts of its course transversely, and then goes on to the consideration of longitudinal and semi-transverse divisions. Where the spinal marrow was divided longitudinally, he found that none of the nerves which were derived from it on either side, were paralyzed; when transversely, that the nerves only were paralyzed, which were directly below the part divided on the same side. If it be true, that in the spinal marrow the fibres or other medium of the propagation of nervous influence decussate in such a manner, that the influence afforded to the nerves of one side is supplied from the other, it seems to follow, that a longitudinal incision, such as was made by Galen, will have the same effect as a transverse one, in producing a paralysis of both sides; for if the propagation is either oblique or transverse, a longitudinal incision must interrupt it\*.'

"From the experiments of Galen, and an experiment made by Mr. Astley Cooper, at Dr. Yelloly's request, which confirms the accuracy of Galen, Dr. Yelloly thinks it extremely improbable that there is any decussation in the course of the medulla spinalis; but, from some circumstances attending Mr. Cooper's experiment, he infers, that the two sides of the medulla spinalis are not perfectly independent of each other. 'Much of the reasoning, and many of the facts which render it probable, that nervous energy is propagated directly downwards in the spinal marrow, and does not decussate, seem to apply likewise to the medulla oblongata; for the one is regarded by anatomists as the mere continuation of the other, and by many of them is considered as not at all different in structure†.' Santorini's opinion, with regard to the place in which decussation is effected, is, that it occurs in the tuberculum annulare and medulla oblongata. The former idea is somewhat probable, Dr. Yelloly thinks; since the tuberculum annulare is the first link in the chain of communication between the encephalon and spinal marrow; since there is reason to suppose, that the full effect of nervous influence is not produced till an union of the cerebrum and cerebellum takes place, which seems to be effected in the tuberculum annulare; and since the circumstances which he has noticed in the course of his paper, are adverse to the idea of decussation occurring either in the medulla oblongata or spinal marrow. In an endeavour to discover the particular seat of decussation, supposing that it exists, the proper object of inquiry seems to be, not so much as to the place where there may be any real or apparent crossing of fibres, as with regard to that at which the effects of an injury in any part of the encephalon cease

\* Med. Chir. Trans. vol. i. p. 192.  
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† Ibid. p. 201.  
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to be propagated in the side in which it was inflicted. Much important information on this point might be obtained by a minute attention to the effects which pressure on particular parts of the brain might have on particular nerves: and if it were found that pressure on the origin of such nerves as arise from the cerebrum or cerebellum, or their crura, previous to their union, affects the same, and not the opposite side of the body, it would furnish some degree of support to the former part of Santorini's opinion\*."

"Doctors Gall and Spurzheim have attempted to demonstrate the place of nervous decussation. 'When we separate from each other,' they say, 'the two inferior cords of the medulla oblongata and spinal marrow, we see that they are separated by a pretty deep fissure, the bottom of which is occupied by transverse medullary filaments. This fissure is only interrupted at one place, which is only two or three lines in length. The fibres of the pyramidal eminence of one side form there three or four filaments, as the hairs of a mat, and which are blended afterwards with the rest of the medullary cord, into which they thus enter obliquely.' A committee of the French National Institute seem to regard this circumstance of structure, as accounting for the production of paralysis in one side of the body, by injury on the opposite side of the brain; but Dr. Yelloly thinks that this structure does not account for the phenomenon in question. He is of opinion 'that, in as much as the glosso-pharyngeal, or lingual nerves, which are affected by pressure on the opposite side of the head, arise from the medulla oblongata above the part at which this crossing is described to take place, the decussation at this place, which is confined to a very small portion of the vertebral column, does not account for the production of paralysis in one side of the body from injury in the opposite side of the brain.'

"Notwithstanding the observations and reasonings of anatomists and physiologists on this subject, much obscurity remains; yet, on the whole, I think it seems more probable that a decussation of nerves takes place in the tuberculum annulare, than in any other part. If the minute structure of the brain were better developed, if it could be shown to consist of converging fibres, we might better understand how injuries done to one side of the brain, especially in the higher parts of the hemispheres, might produce palsy on the opposite side of the body; but though such a fibrous structure of the brain has been supposed to have been seen by Leuwenhoek, Bidloo, Cowper, Gall, and Spurzheim, and others, its existence has not been satisfactorily proved."

#### *Post Mortem Appearances.*

The appearances on examination after death from palsy are nearly similar to those of apoplexy, more especially effusions of various kinds, tumours and other compressing causes, and lesions of the brain. "After partial palsies, the nerves themselves are often observed to have lost much

of their substance, and, as Mr. C. Bell has observed, much of their white opacity. This ingenious physiologist says, that nerves, if not employed, degenerate into a sort of cellular membrane."

Serres remarks, as, indeed, we have intimated, that when palsy is absent in apoplectic attacks, the membranes, and not the substance of the brain, are the parts injured; on the other hand, there is an evident and constant relation observable between encephalic disorganization and paralysis. Rochoux and Riobe speak of those apoplectic cysts to which we have formerly adverted, and explain the particular manner in which effused blood becomes surrounded with an absorbing membrane, by which the effusion is again taken up. Riobe conceives, that a great number of palsies, of which the effused blood is the exciting cause, gradually disappear as this effusion becomes absorbed.

*Prognosis.*—This is generally unfavourable. Indeed, some authors, both ancient and modern, have conceived that palsies are scarcely ever perfectly cured. "Dr. Abercrombie, however, takes a more encouraging view of the subject. He says, perhaps we have been too much in the habit of believing that paralysis of any considerable standing depends upon a fixed and irremediable disease in the brain. Many cases are on record (he observes) which tend to shake this opinion; some recovering very gradually, so as in a few weeks or months to have no trace of the disease." Palsies are always more difficult of cure in proportion to the wasting of the limb.

"Reasoning," says Dr. C. "from appearances after death from palsy, would lead us to conclude that the disease almost always, in a greater or less degree, does remain. Instances may, no doubt, be adduced of perfect recovery from palsy; but I am persuaded that such are of very rare occurrence. If persons affected with hemiplegia do not become apoplectic in a short time, it often happens, that after a certain degree of amelioration, the disease becomes stationary, or very gradually proceeds even for several years, before it terminates fatally."

*Treatment.*—When symptoms occur menacing an attack of paralysis, moderate and even low diet should be enjoined, with gentle exercise, especially in the open air. Some caution is necessary in the reduction of diet in old people; lest, if the accustomed support be too precipitately withdrawn, injury may be occasioned. "For ordinary drink, small beer is to be preferred to plain water, as the latter is more ready to occasion costiveness, which, in apoplectic habits, is to be carefully avoided. Blisters, issues, and setons, are powerfully

prophylactic against paralytic seizures. When hemiplegia actually occurs, we are to suppose that there is pressure upon or in the brain; and the great object of practice should be to remove the pressure, which cannot be more rationally attempted than by depletion, by blood-letting, purgatives, emetics, diaphoretics, sialagogues, revellents, and discharges, by means of blisters, issues, and setons." The following is the manner in which Dr. Cooke expresses himself on the disputed point of blood-letting.

"My own experience on this subject is in favour of the practice of blood-letting in hemiplegia, when accompanied with strongly marked apoplectic predisposition; and I do not recollect to have observed any mischief produced by it under such circumstances. I once, indeed, saw this species of palsy terminate in a fatal apoplexy soon after a free evacuation of blood, in the case of a gentleman seventy years of age, of a plethoric constitution, and free mode of living; yet I am convinced that bleeding, all circumstances considered, was in this case highly proper; nay, it is not very improbable, I think, that by a still more copious evacuation of blood, the total abolition of sensation and motion might have been prevented. We have some cases on record, in which hæmorrhage from the nose, or from the hæmorrhoidal or menstrual vessels, have relieved persons affected by paralytic symptoms, especially when connected with the stoppage of the piles or the menses. With respect to the treatment of hemiplegia, as far as relates to the propriety of blood-letting, and the extent to which depletion, by that means, may be safely carried, it appears to me extremely difficult, if not impossible, with propriety, to lay down any absolute general rules. Each individual case must be viewed in all its circumstances, and by a careful consideration of them our practice should be regulated. Before we prescribe blood-letting in hemiplegia, we must investigate the age, strength, general constitution, and habits of the patient, and above all, the actual symptoms of the disease. In early, or even in somewhat advanced life, if plethora and the various symptoms formerly enumerated as tending to apoplexy were present, I should not scruple to bleed freely, both generally and topically. On the contrary, in great age, debilitated leucophlegmatic habit, dropsical tendency, &c., I should think it right to abstain altogether from this, and from every other powerful mode of depletion, unless there was an evident great determination of blood to the head, marked by flushing in the countenance, throbbing of the arteries, redness of the eyes, &c. In doubtful cases, indeed, the safest plan would be to evacuate blood only topically by leeches, or cupping glasses, and to proceed as circumstances may direct, carefully watching from time to time the effects of the practice."

In all cases of hemiplegia, free purging is to be employed. "The neutral salts, and other purgatives, called refrigerant, may be given when there is much determination of blood to the head, and in full habits; but in debilitated, leucophlegmatic,

and dropsical cases, the more stimulating purgatives, such as aloes, calomel, scammony, colocynth, jalap, &c. may with propriety be administered." In France they use enemas much more than we do in this country. Emetics are of doubtful propriety, especially in the commencement of the disease, and in plethoric habits. Stimulants are useful after congestive and inflammatory symptoms shall have subsided, external and internal stimulants may be used with advantage. Electricity and galvanism may serve to excite the torpid actions of that system; and in cases of some standing, which have become disorders of pure debility, may prove of service.

Dr. Cooke inserts the following note from Cavallo's book on electricity, which proves the potent influence which may be produced by this power upon the organization:—

"Mr. Cavallo mentions a curious influence which electricity has upon parts to which blisters have been applied. He says, "one circumstance attending some of the preceding cures, particularly that of the paralytic, related by Mr. Jones, was a fresh and copious discharge of the blisters which had been previously applied to the patients. This, I think, seems to be a pretty general consequence of electrification; at least, I have myself known many instances of it; particularly in one gentleman, whom I electrified for a paralytic complaint, and who had a blister applied to the back part of his neck. He informed me, that, in the night after his being electrified the preceding day, he found a much more copious discharge from the blister than at other times; though the operation was no more than his standing, for about a quarter of an hour, on the insulated stool, while sparks were drawn from the side of his face. From hence it appears not improbable, that, in some cases, blisters may be attended with peculiar benefit during a course of electrical treatment; in others, perhaps, it might be worth while to make use of electricity, merely to obtain a favourable discharge from the blisters." p. 67 and 68.

We think the following conclusions respecting galvanism to be of sufficient importance to justify their admission in detail:—

"Dr. Bardsley draws from his experiments the following general conclusions. 1. That galvanism, judiciously administered, is a safe and powerful remedy in most paralytic diseases. 2. That as far as three comparative trials will allow an inference, the efficacy of galvanism in paralysis is superior to that of electricity. 3. That galvanism agrees with electricity in its sensible effects upon the body. 4. That when the brain is required to form part of the circle, the galvanic influence ought to be very cautiously administered.

5. If no sensible advantage accrue from a steady, and properly regulated application of this remedy, after a trial of a week or ten days, in paralytic affections, especially where the brain is operated

upon, its use ought to be laid aside. 6. When the pulse has become quicker and firmer, the local, as well as general temperature of the body increased, the feelings, both mental and corporeal, somewhat enlivened, and the altered secretions better regulated, it is proper to infer, from such indications, that galvanism may be persisted in with a fair prospect of ultimate success. 7. Where both sensibility and irritability are so greatly exhausted, as not to render the patient susceptible of the galvanic stimulus by the ordinary means; or where, from the unusual thickness of the cuticle, it forms a barrier to the transmission of the fluid, it will be necessary to excoriate the surface by blistering ointment, and apply the metallic points to the raw skin; but the pain and agitation frequently induced, by administering the remedy through so sensible a medium, must be guarded against, by adapting the number of plates to the increased degree of sensibility. Dr. Bardsley states, that the galvanic stimulus is an efficacious, though not certain remedy in paralytic affections; and he is inclined to think, that in all cases which appear to originate solely from a diminished excitement in the sensorium, galvanism is to be preferred to electricity."

In a bad case of general palsy, Mr. Dupuytren advised the application of burning moxa upon each side of the vertebral column, near the first and second dorsal vertebræ, which was attended with intermediate advantage. "The sloughing of the escars, produced by the moxa, was hastened, in order immediately to establish a drain from the wounds. Under this treatment the patient rapidly amended, and was in a short time restored to perfect health." In some instances the *rhus toxicodendron*, in doses of half a grain of the powdered leaves three times a day, gradually increased, has proved efficacious, and many recent examples have been adduced of the remedial powers possessed by the *nux vomica*. Dr. Cooke extracts Mr. Rose's paper on this medicinal, published in the 11th volume of the Repository, page 3.

The *arnica montana* is highly lauded by some foreign Physicians, in the dose of from five to ten grains in powder; or an ounce and a half in infusion. Horse-radish seems occasionally serviceable. The *lyttæ*, too, either in substance or tincture, may be cautiously tried as a stimulant in old paralytic cases. "In cases of hemiplegia, accompanied with convulsions, or restlessness, opium may be safely and usefully employed."

In conducting the treatment of paraplegia, care, of course, ought to be paid to its cause. Caustic issues by the side of the spine, when the disease arises from a morbid condition of this part, have been used with varied results. "In cases of paraplegia, from diseased spine, I am (says Dr. C.) of opinion that considerable advantage has, in many cases, been derived

from a proper attention to air, exercise, diet, friction, sea-bathing, mercury, in alterative doses, and certain tonic medicines, especially the bark." Paraplegia, from a disease of the brain, is to be treated upon the same principle as palsies of other parts. Dr. Cooke particularly mentions among "partial palsies," amaurosis, and dysecoëa: the first is to be treated with evacuants, or tonics, according to the state and demands of the part, and the system. The visceral functions are to be attended to, and after the secretions of the first passages have been properly regulated, tonics are often of service. Paralytic affections of the auditory nerve, Dr. Cooke thinks, do not occur so often as some suppose, deafness more commonly arising from affections of the Eustachian tube, and other organic causes. Blisters, setons, and electricity, are occasionally advisable. Anosmia and ageusia do not so often happen as nervous diseases, as they do from organic causes. Aphonia and dysphagia, when they are paralytic disorders, may be treated upon the same principles as those which regulate the management of other partial palsies; and in paralysis of the bladder, Dr. Cooke speaks highly of blisters applied to the os sacrum, and tincture of lyttæ, internally in small doses. The volume is concluded by a reference to, and recommendation of, the tract by Mr. Parkinson, on shaking palsy; Dr. C. likewise refers to the modern treatment of amaurosis by large topical blood-lettings, as recommended by Stevenson, Vetch, and others, without, however, introducing any opinion of his own as to its propriety.

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## II.

*Observations in Medicine and Surgery.* By THOMAS SANDWITH, Surgeon.

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THIS is the second division of a volume, the first part of which has been already reviewed in the *REPOSITORY*—and reviewed, even we may be permitted to say, in an able manner. In the present instance we intend to be purely analytical; since there are some doctrines and practices recommended by Mr. S., more especially those which relate to copious depletions, to which we, to say the least, hesitate in awarding our absolute probation.

Appeals to practical results, and records of successful terminations, are ever to be viewed with a suspicious eye, when the professed object of a medical narration is that of urging the propriety of a particular plan of treatment; and a volume has been published, of the full dimensions of that now before us, pregnant with proofs, that it is better to treat

without blood-letting even those affections, which, by almost universal acknowledgment, are declared to require it.

For our own part, we see no reason to change our motto from *in medio* to *in toto*; and while we think fevers and inflammations have been suffered to run on into protracted disorders and organic derangements, from a deficient attention to the demands for early and somewhat vigorous depletion, we at the same time feel, that the bold interference with Nature of some present day Practitioners, has cured the complaint at the expense of constitutional stamina.

We have been given to understand, that in a metropolitan establishment, which it might be deemed invidious to name, its able and meritorious officer has found his account in adopting measures for the safety of his patient, to which the epithet imbecile and indecisive would, perhaps, by himself have been formerly judged appropriate: and if such change of sentiment and consequent practice have taken place, let it be told to the honour of any one or more, who will be thus taught by experience rather than trammelled by theory.—But enough: we have promised an analysis—let us fulfil our engagement.

“We observe,” says Mr. S., “a remarkable difference in the power of resisting the lancet in the several tissues of the body when inflamed. Some inflammations are cured by the loss of ounces of blood, while others require as many pounds; and between these extreme points the gradations are numerous.” He goes on to say, that as mucous and serous membranes are so differently circumstanced under inflammatory irritation, as to the required and permissible measure of depletion, an important rule of practice is deducible from the fact, which is, *in clearly marked cases of inflammations of the mucous membranes, to bleed the patient while upright*, in order to accomplish the resolution of the disease with the smallest loss of vital power. On the contrary, when the tissue affected is serous membrane, enveloping large viscera and lining large cavities, “we must produce actual debility, and that very soon. *Our patients should be bled in the horizontal posture, in order that a large volume of blood may be abstracted before a disposition to syncope is produced.*”

“Nor does the treatment of inflammation of the ligamentous coverings of the joints (acute rheumatism) constitute an exception to this rule. It is the opinion of many of the moderns, that enlightened Practitioner Dr. Scudamore among the number, that moderate depletion prevents the frequently deplorable consequences of rheumatic fever. He says, ‘A degeneracy into chronic symptoms is in no way so powerfully promoted, as by an intemperate

employment of the lancet.' That relapses, chronic rheumatism, decrepitude, and a broken constitution, arise from the entire neglect of blood-letting, is proved by the case related in the dissections; and indeed these evils are the natural effects of protracted inflammation of ligamentous parts. The opposite opinion, that they have their origin in large depletions, is unsupported by the evidence of facts, and, as far as my observation extends, is contrary to experience. My success in the treatment of rheumatic fever, in the first years of my practice, was unsatisfactory: Deterred by unfounded apprehensions, I did not use the lancet with freedom; and my patients had tedious recoveries and frequent relapses. Since I have adopted the rule under consideration, none of the ills predicted by Dr. Scudamore have occurred, the disease has yielded as soon as any other acute disease, and my patients have as speedily recovered from the debility induced by the loss of blood."

Mr. S. further informs us, that in every species of inflammation it is necessary "to bleed in quick succession;" and that unless we speedily repeat our bleedings, we often actually increase the violence of the disease, and convert what was mere congestion into positive inflammation. He indeed lays down the following position, as a practical maxim: *Whenever an inflammation is not cured by the first bleeding, the operation should be repeated every two, four, or six hours, until it is.* Fears of dropsy from large depletion, we are told, are unfounded; morbid anatomy has shown hydropic accumulation to be one of the consequences of inflammation.

Mr. S. presents a case in point, viz. of pneumonia, in which thirty ounces of blood were first taken. This was at twelve o'clock on the 28th of March. At eight o'clock thirty leeches were applied to the affected side. At six the next day, twenty ounces more of blood were taken; in the evening, sixty small leeches were applied to the side. On the third day, at six, the pulse being 110, twenty ounces of blood were taken, and a Physician was sent for. "The relief obtained by the bleeding was not at this time decisive. *The blood still showed no size; nevertheless I was certain,*" says Mr. S., "the disease was pneumonia, and anxiously pressed another bleeding, which was overruled." Another Physician was accordingly sent for; but, in consequence of a difference of opinion between the two, the patient was not again bled till the afternoon of the 2d of April, "when twenty-two ounces of blood were abstracted, with decided relief and syncope." After this there was a suspension of active measures, until the 6th, when inflammation, evidently to Mr. S. and one of the attending Physicians, still existing in the pericardium, the patient was again "bled, *usque ad deliquium*, (fifty ounces), and was in a state verging on

syncope for several hours." Early in the morning on the 7th twelve ounces more were abstracted; and during the three following days the system was in a state of torpor. On the 11th in the evening there was a relapse. In the morning (four o'clock A. M.), twelve leeches were applied, and sixteen ounces of blood taken from the arm. Our author's next date is 20th; but he speaks of this as of a day immediately succeeding the 11th; for he says, "a comfortable night was the result of these measures (the measures of the 11th); but the next morning we found it necessary to abstract sixteen ounces more blood." On the 22d, thirty ounces more were taken. On the 25th, twenty-four good leeches were applied to the side. At eight o'clock on this day "the patient was almost exanimate, the face corpse-like, and the pulse vermicular and past numeration." The debility the whole of the next day was extreme. On the following morning the memory was gone, and the mind imbecile; "but the powers quickly returned; all the functions were well performed; and, save a trifling cough, at the end of a month no vestige of disease could be discovered." About the middle of June menacing symptoms of hydrothorax were observed, which yielded, however, to treatment; and the report is closed by stating, that after "a violent purging of a black offensive matter, probably a vitiated secretion from the liver, and by which his life was placed in great hazard, the natural discharge from the bowels returned, the digestion became perfect, he lost his cough, and the following year returned home stouter, and enjoying better health, than he had done for many years before."

The next case of Mr. S. is one which he entitles "sub-acute inflammation of the pleura and pericardium," which is introduced by the following remarks:—

"Pulmonary infarction, and consequent obliteration of the air-cells of the lungs; adhesions of the pleura to the ribs, a state of parts which is frequently the foundation of hydrothorax; and chronic inflammation of the pleura and pericardium; are the most common effects of the sparing use of venesection in inflammatory affections of the chest. The following case is worthy of record, not only as an illustration of the last of these effects, but as another example of the power of the lancet in protracted inflammation."

The case is that of a delicate female, who had pleurisy after neglected catarrh. Two bleedings from the arm, and leeches to the side, with other measures, constituted the treatment the first day. On the second, another small bleeding was presented, and a blister to the side. "The disease was masked by the blister; and, on the supposition that the inflammation of the side was cured, the cough which re-

mained was left to digitalis and low diet." The health appeared to be gradually restored; but in six weeks' time there was a fresh attack of inflammation—the lancet was again used—and after a few days, all seemed to be going on well again: but the time was fallacious; in a few days soreness in the upper part of the breast was felt, and the cough was renewed. Another bleeding was ordered, with a blister to the sternum. "*There was now evidently sub-acute inflammation of the pleura and pericardium;*" and now "the lancet, relays of leeches, and the digitalis, were used, until such actual weakness was induced, that for several days the patient was in a state of half syncope," and her convalescence afterwards was sure and rapid.

Mr. S. next goes on to descant on the utility of blood-letting in hæmorrhagic diseases, in the majority of which, "the marks of over excitement are generally apparent." Even purpura and menorrhagia are diseases, for the most part, rather of excitement and congestion, than debility. In the first case narrated, one, namely, of purpura hæmorrhagia, the first bleeding amounted to twenty ounces, and it so shook the patient, that two days elapsed before Mr. S. ventured upon a repetition. The blood was cupped and buffy. The next bleeding was borne better; and in a few days the countenance of the patient manifested an extraordinary improvement. He was bled twice a week till every trace of disease disappeared. The second case is one of menorrhagia, in which bark, mineral acids, diuretics, and gentle laxatives, had been administered without avail—at least with only temporary avail. The first and second bleeding seemed to add to the general debility, but afterwards things became better. After five bleedings the person was convalescent, and "her recovery has been most perfect." In the second case of menorrhagia the patient likewise at first complained of great debility. "The skin was bombycinous, the hands exsanguine, the breathing hurried on exertion, together with palpitations and faintings. The pulse 100 and small. Three small bleedings, with gentle laxatives, and abstinence from every kind of stimulant, completely cured the disease, and restored general health."

"*Passive Congestion of the Lungs.*"—In this disease the blood is supplied by the left side of the heart imperfectly; there is a cold, pale, and relaxed skin; a painful struggling in the region of the heart; and occasional syncope. But cordials are improper, and the lancet here will restore animation. A case of this kind came under Mr. S.'s care, which had been treated by wine and bitters for four months; new

measures were pursued, the principal of which was blood-letting. "The effect of the first venesection was almost magical. The pulse seemed to leap out of durance, and spring forth full, free, and bounding." He soon completely recovered, and has remained well for years. The second case is that of a young lady, in whom stimulants always increased the struggling and pain at the heart; and it was delightful, says Mr. S., to witness in these circumstances the effect of bleeding. When that measure is neglected, spitting of blood, or inflammation of the lungs or liver, are the consequences.

*Erysipelas, from the Bites of Leeches.*—"In no disease is blood-letting more necessary than in erysipelas, especially when it attacks the face and scalp." This is a frequent consequence of applying leeches to the temples. We have two cases recorded by our author of this affection consequent upon this cause. The first, a robust young man, who was bled to twenty ounces, without much relief; thirty-five ounces were therefore taken from the temporal artery. He fainted, but on recovery found himself much relieved. Four o'clock the next morning "the bandage was removed from the artery, and forty ounces more of blood were abstracted. "The pulse was humbled, but not subdued." At night the artery was again opened, and thirty-five ounces more blood taken before syncope supervened. "His recovery afterwards was rapid." The second case was fatal, and in which less vigorous measures were used. In this instance, twenty ounces of blood were taken, and the pain relieved. She was in the seventh month of pregnancy, and during the night symptoms of labour came on, and she was delivered before morning. "She was tranquil the remainder of that day; afterwards the disease advanced with rapid strides; the face and head were swollen to an incredible size; there was continual delirium, and a complete tympany; the pulse sunk rapidly; and she soon died."

The next subject on which Mr. S. treats is the pathology of the mucous membrane of the trachea. A fatal case is first recorded of inflammation in the larynx. The individual in whom it happened was, in the first instance, bled to thirty ounces—this was done at nine in the morning; at three the bleeding was repeated to fifteen ounces. A few hours afterwards, sixteen ounces more blood were taken, and calomel and tartar emetic ordered in large doses. He then seemed much better, but about midnight he died suddenly, "apparently suffocated by the secretion from the inflamed membrane." Mr. S. afterwards gives a case of milder

laryngeal inflammation, "which yielded readily to one or two bleedings, the steady use of the digitalis, and low diet." Tracheal and bronchial inflammation is then alluded to, and two cases presented, illustrative of the benefit derivable from free and full bleedings.

The "Contributions to Morbid Anatomy" are reprints from the Edinburgh Medical and Surgical Journal, and it would therefore not be proper to analyse them in this place. The surgical cases and remarks by which the volume is concluded, we must defer the notice of to the surgical division of our half yearly retrospect.

## DEPARTMENT OF NATURAL HISTORY, &c.

*A Natural Arrangement of Mollusca, according to their Internal Structure.* By Mr. JOHN EDWARD GRAY.

THE mollusca having been much studied on the Continent, although little noticed in England, have been removed from the situation they occupied in the Linnæan arrangement, and are now placed at the head of the avertebrose animals, as their structure so nearly approaches to that of fish; instead of being arranged, as by Linnæus, in a class still lower in organization than that of insects, and at the very extremity of the animal kingdom. The bony skeletons, under the name of *shells*, have in all ages attracted the eye of taste, from the singular elegance of many of their forms, and the beautiful hues with which they are ornamented. It is these exquisitely beautiful skeletons that have absorbed all the attention of the amateur; but the scientific observer, who has not yet bestowed his thoughts upon the subject, will see from the present paper, that their anatomical structure is equally wonderful.

*Sub Kingdom II. MOLLUSCA.* Cuvier. Lamarck.

Animal without any bony skeleton, muscles attached to the skin, skin soft, not articulated, nor annulated, nervous system irregular.

### *Class 1. ANTLIO-BRACHIOPHORA.*

Cephalopoda. Cuvier Regn. animal.

Mollusca cephalifera cephalopoda. Lamarck. Extr. de Cours.

Bracheata. Poli.

Cephalofora cryptodibranchia. Blainville. Thoms. Annals.

Head very distinct, base with a cartilaginous ring, eyes 2.

lateral, very large; arms 8, 10, round the mouth, armed with suckers. (Antliæ.) Branchia arborescent, 2-lobed, close on each side, enclosed in the large sack-like mantle, open above in front. Protectors, or shells, more or less developed.

*Ord. 1. ANOSTEOPHORA.*

Protectors 2; arms 8; equal; body finless.

*Gen. 1. Octopoda.*

*Ord. 2. SEPIÆPHORA.*

Protectors horny or cretaceous; arms 10, 2 longer; body 2 finned below.

*Gen. 2. Sepiola, 3. Sepia.*

*Ord. 3. NAUTILOPHORA.*

Protectors or shells many chambered, straight, or discoidal; arms 10, 2 longer; body 2 finned, below.

*Gen. 4. Orthocera, 5. Spirula, 6. Cristellaria, 7. Spherula, 8. Rotaclea, 9. Nautilus, 10. Ammonita.*

*Class 2. GASTEROPODOPHORA.*

Gasteropoda: Cuvier.

Mollusca gasteropoda and trachelopoda. Lamarck.

Cephalophora, Orders 3—11. Blainville.

Polyplaxiplora. Blainville.

Head distinct; organs of vision 2, small; foot flat, on the ventral disk, formed for walking; branchia more or less developed; mantle conical, sack-like; protectors none, or coriaceous, or shelly; shell univalve, or many placed in a series.

*Sub Class I. PNEUMONOBANCHIA.* Branchia not developed; breathing free air.

*Ord. 1. ADELOPNEUMONA.*

Gasteropoda pulmona. Cuvier.

Gasteropoda adelobanchia (part.) Dumeril Zool. Analyt.

Gasteropoda pulmonifera (part.) Fleming. Encl. Brit.

Sup.

Cephalophora pulmonobanchia. Blainville.

Mollusca gasteropoda (§. 5.) Lamarck.

Mollusca trachelopoda (§. 1. part.) Lamarck.

Branchia not developed; pulmonary vessels spread over the branchial cavity; branchial cavity closed, formed by the mantle being soldered to the neck; lateral opening closed by a valve: half hermaphrodite: operculum none: shell more or less developed, not symmetrical, spiral; aperture spread. Terrestrial or aquatic, breathing free air.

*a. Tentacula retractile, terrestrial.*

1. *Limax*, or *Limacidae*. 2. *Orchidium*. 3. *Plectopho-*

rus. 4. Testacella. 5. Vitrina. 6. Helix. 7. Achatina.  
8. Clauselia.

b. Tentacula contractile cylindrical. Amphibious.

9. Auricula. 10. Carychium. 11. Phytia. (Voluta Denticulata.)

c. Tentacula contractile, compressed. Aquatic.

12. Lymnæa, \* shell external, \*\* shell internal. 13. Planorbis.  
14. Ancyllus.

### Ord. 2. PHANEROPNEUMANA.

Gasteropoda pectinibranchia part. Cuvier.

Gasteropoda trachelopoda (§ 1. \* part.) Lamarck.

Gasteropoda pulmonifera (part.) Fleming.

Branchia not developed; pulmonary vessels spread over the branchial cavity; branchial cavity open: mantle free in front: unisexual: operculum distinct: shell not symmetrical, spiral, aperture small. Terrestrial. Breathing free air.

Gen. 1. Cyclostoma. 2. Helicina. (Oligyra, Say.)

Sub Class II. Cryptobranchia. Branchia under the mantle. Breathing water.

### Ord. 3. CTENOBANCHIA.

Gasteropoda pectinibranchia. Cuvier and Flem.

—— adelobranchia (part.) Dumeril.

—— siphonobranchia. Dumeril.

Mollusca trachelopoda (§ 1. \*\* & § 2.) Lamarck.

Cephalophora chismobranchia (part.) Blainville.

Cephalophora siphonobranchia. Blainville.

Branchia pectinated in a longitudinal series on the inside of the mantle, on the columella side: mantle free in front; mostly extended into a syphon: unisexual: operculum mostly distinct: adductor muscle attached to the columella of the shell: shell not symmetrical, spiral, or involute; aperture contracted. Marine, rarely fresh water. Breathing water.

a. Operculum cartilaginous bullated. Floating shell downwards.

1. Janthina.

b. Operculum spiral articulated to the columella.

2. Neritino. 3. Navicellus. (Septarius Fer. Cimber. De Mont.)

c. Operculum spiral, free.

4. Nerita. Melas. Operculum ovate, nucleus basillary, spire few whorled.

5. Turbo. Operculum orbicular. Nucleus subcentral, spire few whorled.

6. Trochus. 7. Valvata. 8. Cerithium. Operculum orbicular. Nucleus central, spire many whorled.

- d. Operculum annular. Nucleus subcentral, regular.  
 10. Paludina. (Vivipara. Oper. horny, nucleus lateral  
 Ampularia. Oper. shelly, nucleus lateral. Bithinia. Oper.  
 shelly. Nucleus central.)  
 e. Operculum annular. Nucleus apicular, irregular.  
 11. Murex. 12. Voluta. 13. Strombus. 14. Conus.  
 f. Operculum none, shell subinternal.  
 15. Cypræa. 16. Volva.

#### Ord. 4. TRACHELOBRANCHIA.

Gasteropoda scutibranchia (part.) Cuvier.

———— pectinibranchia (part.) Cuvier.

———— § 3, 4, (part.) Lamarck.

———— adelobranchia (part.) Dumeril.

Cephalophora chismobranchia (part.) Blainville.

Branchia pectinate, in a transverse row round the inside of the mantle over the neck: mantle free in front: unisexual: operculum none: adductor muscle attached to the columella, submarginal: shell not symmetrical; aperture effused. Marine. Breathing water.

a. Adductor muscle near the columella: shell ear shaped; apex spiral.

1. Sigaret. 2. Cryptostoma.

b. Adductor muscle submarginal, horse-shoe shaped: shell conical; apex incurved.

3. Velutina. 4. Capulus. 5. Stomata.

c. Adductor muscle marginal: shell depressed; aperture with a transverse internal lip. 6. Crepidula.

d. Adductor muscle subcentral: shell conical; aperture with an internal lip.

7. Calyptra. 7. Mitula. (Patella Chinensis.)

#### Ord. 5. MONOPLEUROBRANCHIA.

Gasteropoda tectibranchia (part.) Cuvier.

———— 2 (part.) Lamarck.

———— adelobranchia (part.) Dumeril.

Cephalophora monopleurobranchia. Blainville.

Branchia lamellar or arborescent on the right side, between the mantle and the foot: anus behind, orifice of generation before the branchia: half hermaphrodite: operculum, none: protectors or shell, not symmetrical, flat or slightly convolute, aperture very large, entire. Marine, breathing water.

1. Umbrella (Lam. Gastroplax. Blainville.) 2. Pleurobranchia. 3. Laminaria.

#### Ord. 6. NOTOBRANCHIA.

Gasteropoda tectibranchia (part.) Cuvier.

Gasteropoda § 2. and 4. (part.) Lam.

\_\_\_\_\_ adelobranhia (part.) Dum.

Cephaloptera Nucleobranhia. Blainv. (without character.)

Branchia arborescent, on the right side of the back, under a fold of the mantle: anus and orifice of generation on the right side: half hermaphrodite: operculum, none: protectors or shells not symmetrical, more or less convolute; aperture effused, entire. Marine, breathing water.

Gen. 1. *Aplysia*. 2. *Bulla*.

#### Ord. 7. SCHISMATOBranhia.

Gasteropoda scutibranchia (part.) Cuv.

\_\_\_\_\_ adelobranhia (part.) Dum.

\_\_\_\_\_ dermobranhia (part.) Dum.

\_\_\_\_\_ § 2. (part.) Lam.

Cephalophora chismobranhia (part.) Blainville.

Branchia arborescent, two lobed on the columella side: mantle with a longitudinal slit over the branchia: rectum passing through the two ventricled heart, and between the lobes of the branchia: hermaphrodite: operculum none: adductor muscle nearly central: shell not symmetrical; apex spiral; columella side perforated above. Marine, breathing water.

Gen. 1. *Haliotis*.

#### Ord. 8. DICRANOBRANCHIA.

Gasteropoda scutibranchia (part.) Cuvier.

\_\_\_\_\_ §. 3. (part.) Lamarck.

Cephalophora cervicobranhia (part.) Blainville.

Branchia arborescent, two lobed, one lobe on each side: mantle slit, or perforated, in front over the branchia: rectum passing through the two ventricled heart, and between the lobes of the branchia: hermaphrodite: operculum, none: adductor muscle circular, submarginal: shell symmetrical, conical, perforated or slit. Marine, breathing water.

Gen. 1. *Fissurella*. 2. *Scutus*. 3. *Diodora* (*Patella apertura*. Mont.) 4. *Imarginula*.

#### Ord. 9. CYCLOBRANCHIA.

Gasteropoda cyclobranhia (part.) Cuvier.

\_\_\_\_\_ dermobranhia (part.) Dumeril.

\_\_\_\_\_ § 2. (part.) Lamarck.

Cephalophora cervicobranhia (part.) Blainville.

Branchia laminar, round the under surface of the mantle, just above the foot: anus and aperture of generation on the right side: tentacula 2: hermaphrodite: operculum none: adductor muscle circular, submarginal: shell symmetrical; conical, of one piece, imperforated. Marine, breathing water.

Gen. 1. *Patella*.

## Ord. 10. POLYPLACOPHORA.

Gasteropoda cyclobranchia (part.) Cuv.

\_\_\_\_\_ dermobranchia (part.) Dum.

M. gasteropoda §. 2. (part.) Lam.

Polyplaxiphora. Blainville.

Branchia laminar, round the under surface of the mantle, just above the foot: mantle edge coriaceous: anus terminal: tentacula none: hermaphrodite: operculum none: protectors symmetrical, composed of arched shelly plates; implanted in the middle of the back. Marine, breathing water.

a. Plates placed on the back of the mantle.

1. Gymnoplax or gymnoplacidæ. Acanthochitona. Chiton fascicularis. Lepidochitona. Chiton marginatus.

b. Plates sunk in the back of the mantle.

2. Cryptoplax. Chiton larvæformis.

## Ord. 11. DIPLEUROBRANCHIA.

Gasteropoda pleurobranchia. Cuvier.

\_\_\_\_\_ §. 2. Lamarck.

\_\_\_\_\_ cyclobranchia (part.) Fleming.

Branchia laminar, round the under surface of the mantle, just above the foot: mantle coriaceous, scattered with retractile tubercles: anus dorsal, subterminal: tentacula 4: organs of generation on the right side: half hermaphrodite: protectors none. Marine, breathing water.

Gen. Phyllidia.

Subclass III. Gymnobranchia, branchia on the outside of the mantle. Marine, breathing water.

## Ord. 12. PYGOBRANCHIA.

Gasteropoda nudibranchia (part.) Cuv.

\_\_\_\_\_ dermobranchia (part.) Dum.

\_\_\_\_\_ §. 1. (part.) Lam.

Cephalophora cyclobranchia. Blain.

Branchia arborescent, external, on the back of the mantle round the anus: mantle coriaceous, scattered with retractile tubercles: anus dorsal, subterminal: tentacula 4: organs of generation on the right side: half hermaphrodite: protectors none. Marine, breathing water.

Gen. 1. Doris.

## Ord. 13. POLYBRANCHIA.

Gasteropoda nudibranchia (part.) Cuv.

\_\_\_\_\_ dermobranchia (part.) Dum.

\_\_\_\_\_ §. 1. (part.) Lamarck.

Pteropoda (part.) Peron and Lessuer.

Cephalophora polybranchia. Blainville.

Branchia arborescent, or vermicular, external, on the sides or on the back of the mantle: mantle coriaceous: anus and organs of generation on the right side: half hermaphrodite: protectors none. Marine, breathing water.

Gen. 1. Tritonia. 2. Scyllaea. 3. Eolis. 4. Tergipes. 5. Tethys. 6. Glaucus.

**Class III. GASTEROPTEROPHORA.**

Mollusca gasteropoda. Cuvier.

—— cephalopoda heteropoda. Lamarck.

—— pteropoda. Peron.

Head distinct; organs of vision, two: body elongate, free, (floating horizontally belly upwards): foot on the ventral disks: arms or fins round the head, none: fin one, towards the hinder part of the ventral disk: branchia pectinated, inside the conical mantle: anus lateral: shell symmetrical, conical, involute, very thin; aperture rather angular: opposite to the ventricle fin. Marine, breathing water.

Gen. 1. Pterotrachea. (Carinaria, Argonauta.)

**Class IV. STOMATOPTEROPHORA.**

Mollusca pteropoda. Cuvier.

Mollusca cephalifora pteropoda. Lamarck.

Cephalifora pteradibranchia. Blainville.

Head more or less distinct: body elongate, free, (floating): foot none distinct: mantle mostly double, extended in front into the form of two membranaceous fins: hermaphrodite: protectors none, or very thin. Marine, breathing water.

**Ord. 1. PTERABRANCHIA.**

Head distinct: branchia external on the fins: mantle sack-like: shell, none, or univalve.

a. Shell spiral. Limacina.

b. Protector or shell, straight. Cleodora. Cymbula.

c. Protector or shell, none: Clio, Pneumoderma: a distinct order?

**Ord. 2. DACTYLIOBRANCHIA.**

Head, none distinct: mantle two leaved: branchia lamellar, in a ring on the lower side of the body, between the leaves of the mantle, opposite to the lateral slits: shell, sub two-valved: hind part soldered, perforated, sides slit, front open.

Gen. 1. Hyalea.

**Class V. SACCOPHORA.**

Acephala nuda. Cuvier.

Mollusca acephala nuda. Lamarck.

Tunicata. Lamarck. Hist.

Acephalophora siphonobranchia. Blainville.

Head, eyes, foot, arms, or fins, none distinct: mantle soft, sack-like, double, one enclosing the other; with two apertures, one for respiration, the other for digestion: branchia lamellar, covering the whole or part of the parietes of the branchial cavity: mouth at the bottom of the branchial cavity, furnished with labial tentacula: hermaphrodite: protectors, none. Marine, breathing water.

### Ord. 1. HOLOBRANCHIA.

Thethydes. § 1, ord. 1. Savigny.

Fixed to other bodies. Mantle and tunic separate, except at the apertures: branchial lamellæ large, uneven, contiguous at the sides, covering the parietes of the branchial cavity: branchial cavity with only one aperture; aperture surrounded on the inside with a circle of filaments, not opposite to, nor communicating directly with, the anal opening.

a. Simple. 1. Boletaria. 2. Phallusia.

b. Compound. 3. Distoma. 4. Synoicum. 5. Eucelium.

### Ord. 2. TONOBANCHIA.

Thethydes. § 1, ord. 2. Savigny.

Free, floating about. Shell and tunic separate from the mantle, except at the apertures: branchial lamellæ large, uneven, not contiguous at the sides, nearly covering the parietes of the branchial cavity: branchial and anal opening diametrically opposite: branchial cavity open at both ends; anterior opening furnished with a denuculated ring: fringes none. (Compound.)

Gen. 1. Pyrosoma.

### Ord. 3. DIPHYLLOBRANCHIA.

Biphora. Cuvier.

Thallides. Savigny.

Free, floating about. Shell or tunic adhering to the mantle in all parts: branchial lamellæ two, narrow, united: branchial orifice with a valve.

Gen. 1. Salpa.

## Class VI. CONCHOPHORA.

Acephala testacea. Cuvier.

Mollusca acephala testacea (part.) Lamarck.

Conchifera (part.) Lamarck.

Conchifera. Fleming.

Acephalophora lamellibranchia. Blainville.

Head, none distinct: foot one, compressed: mantle two-leaved, one on each side of the foot, more or less soldered together: branchial lamellæ, two on each side, placed be-

tween the foot and the mantle leaves: mouth just before the foot, with two lips on each side: rectum transversing the heart: adductor muscles, one or more, for closing the shell: shell two-valved; valves attached to each other by an hinge on one side, the other side and the two ends free. Marine, rarely fresh water; breathing water.

#### Ord. 1. CLADOPODA.

*Conchiferes dimyares crassipedes* (part.) Lam. Ext. de Cours.

Animal, adductor muscle posterior: mantle, sides soldered, front open: foot thick, clubbed, passing out in front: shell gaping in front, opened by an external abductor muscle, generally protected by accessory pieces, and closed by one adductor muscle: elastic ligament, none.

1. *Pholas*. 2. *Teredo*. 3. *Aspergillum*.

#### Ord. 2. PACHYPODA.

*Conchiferes dimyares crassipes* (part.) Lamarck.

Animal, adductor muscles, two, distinct, anterior and posterior: mantle side soldered, front open: foot thick, passing out in front: shell regular, mostly inequivalved, gaping at the ends: elastic ligament internal, in a tooth.

1. *Mya*. 2. *Corbula*.

#### Ord. 3. LEPTOPODA.

*Conchiferes dimyares tenuipedes*, and *lamellipedes* (part.) Lam.

Animal, adductor muscles, two, distinct, anterior and posterior: mantle side open: foot small, compressed: shell regular, generally equivalved, gaping, more or less, at the ends: elastic ligament internal, in a tooth.

1. *Mactra*. 2. *Nucula*.

#### Ord. 4. PHYLLOPODA.

*Conchiferes dimyares lamellipedes*. Lamarck.

Animal, adductor muscles, two, distinct, anterior and posterior: mantle side open: foot small, lamellar: shell regular, equivalve: elastic ligament marginal, linear, external.

a. 1. *Solen*. 2. *Psammolia*. 3. *Tellina*.

b. 4. *Cyclas*. 5. *Venus*. 6. *Cardium*. 7. *Tridacna*. 8. *Chama*. 9. *Pectunculus*. 10. *Trigonia*. 11. *Unio*.

#### Ord. 5. POGONOPODA.

*Conchiferes dimyares lamellipedes* (part.) Lam.

*Conchiferes monomyares* (part.) Lamarck.

Animal, adductor muscles, two, anterior and posterior: mantle side free: foot very small, with a bundle of byssus in front: byssus ending in suckers: shell equivalve: elastic ligament marginal, linear.

12. *Arca*. 13. *Mytilus*. 14. *Avicula*.

*Ord. 6. MICROPODA.*

*Conchiferes dimyars lamellipedes* (part.) Lamarck.

Animal, adductor muscles, one, (or two or three, close together,) nearly central: mantle side free: foot very small: shell mostly inequivalve: elastic ligament internal, short, in a hollow; not marginal.

1. *Pecten*. 2. *Ostrea*. 3. *Apomia*.

So little is known of the animals of this class individually, that it may, perhaps, be better to arrange them by the shell, elastic ligament, and muscular impressions only; as in the following manner.

*a.* Elastic ligament, none: abductor muscle external: muscular impressions solitary behind. *Myostropha*.

*Pholas*. *Teredo*. *Aspergillum*.

*b.* Elastic ligament internal: muscular impressions, two, anterior and posterior. *Diapedastrophia*.

*Mya*. *Corbula*. *Mactra*. *Nucula*.

*c.* Elastic ligament external, marginal, muscular impressions mostly two, anterior and posterior.

*Solen*. *Psammobia*. *Tellina*. *Cyclas*. *Venus*. *Cardium*. *Tridacna*. *Chama*. *Pectunculus*. *Trigonia*. *Unio*. *Arca*. *Mytilus*. *Gastrochoena*. *Avicula*.

*d.* Elastic ligament internal, not marginal: muscular impressions, one, subcentral.

*Pecten*, *Ostrea*, *Anomia*.

*Class VII. SPIROBRACHIOPHORA.*

*Brachiopoda*. Cuvier.

*Mollusca acephala testacea monomyares*, § 2. (part.) Lamarck.

*Conchiferes monomyares*, (part.) Lamarck.

*Acephalophora palliobranchia*. Blainville.

Head none distinct: foot none for walking: arms two, spiral, fringed, between the lobes of the mantle: mouth between the base of the arms; mantle two leaved: branchia lamellar, petinated on the inner surface of the lobes of the mantle: adductor muscles, three or four, for closing the shells: shell two valved, hinge at one end, the other end and two sides open; fixed to other bodies. Marine, breathing water.

*a.* Shell unequivalved; lower valve flat, affixed beneath: hinge none.

1. *Criopus* (*discina* and *oricula* Lam.). 2. *Crania*.

*b.* Shell unequivalved, peduncle tendinous coming through a perforation or nick in the larger valve: hinge toothed.

3. *Terebratula*.

c. Shell nearly equivalve, with a long tendinous peduncle coming from between the apices of the valves: hinge toothless.

4. Ligula.

The following are New British species of Mollusca:—

*Sepia Calamara sagittata* monro fishes.

*Limag Arion hortensis* ferusac.

*Testacella maugeri* drap. mol. t. 9, f. 12, 13, t. 8. f. 43, 48.

*Vitrina pellucida*, drap, mol. t. 8, f. 24, 27.

*Helix Zonites crystallina*, drap. t. 8, f. 13, 17.

———— *nitidula*, drap.

———— *striatula*, drap. t. 8, f. 21, 22.

———— *lucida*, drap. t. 8, f. 11, 12.

———— *pygmea*, drap. t. 8, f. 8, 10.

*Helix Jacosta albella* drap. t. 6, f. 25, 27.

*Helix Zenobia corrugata*, undescribed. Bristol.

———— *binarginata*, drap. t. 6, f. 31, 32.

*Helix Isthmia cylindrica*, drap. t. 3, f. 30, 31.

*Helix Chondras cinerica*, drap. t. 8, f. 53, 54.

*Clauselia Iphigeha Rolphii*, undescribed. Kent.

———— *Marpessa bidens hyalina*.

*Nerita Syncera Hepatica*, N.S.—The animal of this shell differs from all the others of this order, by the eyes appearing to be at the ends of the tentacula; but, I believe, that they are placed on a peduncle, as long as the tentacula, and the peduncle and tentacula are sordered together.

*Paludina Vivipara cristallina* List anat, t. 6, f. 5, young with 5 hairy bands, P. V.

*Vulgaris*, list, t. 126, f. 26, young with many hairy bands.

*P. Bithinia ventricosa*, N.S. Battersea

The references to Blainville are from a translation of his paper in the *Bulletin des Sciences*, where there are no characters given to his orders; so that they are in many places very doubtful; except in a few, as *chysclobranchia* and *chismobranchia*, which he has described in the *Nouveau Dictionnaire de Sciences Naturelles*, which has as yet only gone as far as the letter D.

The genera that are here given mostly contain many subgenera, and are what are called, by several modern naturalists, natural families; but I prefer to call them genera, and their subdivisions subgenera, because, then, either name can be used separately, and so suits both opinions; for the genera may be made into families, by changing the termination, as from *limax* to *limacidæ*, and because I think that it is easier to recollect *limax arion hortensis*, than *arion hortensis* alone; as genera are now become so numerous, that naturalists really want something to let them know to what part of natural history they belong.

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**PART III.**

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**SELECTIONS.**

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*Experiments and Remarks, illustrating the Influence of the Eighth Pair of Nerves over the Organs of Respiration and Digestion.* By S. D. BROUGHTON, Member of the Royal College of Surgeons, one of the Surgeons to the St. George's and St. James's Dispensary, and to his Majesty's Second Regiment of Life Guards.

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(Continued from page 160.)

BUT, since the object of this inquiry is principally to ascertain the influence of the par vagum over digestion, and to settle (if possible) the point in dispute relative to the galvanic power with respect to the functions of the lungs and the stomach, it will now be necessary to advert to the experiments of Dr. Wilson Philip, who has pursued a physiological course, somewhat similar to that of Le Gallois, but has indeed gone far beyond him in speculative points in his theory of the analogy between the nervous influence and galvanism. It is needless to follow this author through all the minutiae of his experiments, their end and object being to this effect, that, *according to his invariable experience*, after having divided the eighth pair of nerves on both sides of the neck of an animal, *the process of digestion ceases to be carried on*; and consequently, any food at the time in the stomach remains *unaltered* after the division of the nerves. It is also unequivocally stated, that *the respiration soon becomes disturbed, and continues unceasingly so till the animal's death*. These facts being proved to his entire satisfaction, the author next asserts it to be also his *invariable experience*, that, by forming a proper galvanic circle, including the abdomen and chest, he succeeds in supplying the functions of digestion and respiration with the galvanic power, so as to effect *the restoration of these functions*; and accordingly, he says, *the animal will continue to digest his food, and to breathe freely, while the galvanic trough is kept in play*; but that on its being stopped, *digestion ceases again, and respiration becomes disturbed, and either may be restored at pleasure, till the animal is at length killed by galvanism always occurring in a few hours*. To the truth of these assertions several individuals have borne witness.

A doctrine so novel, and so strongly insisted on, excited in the Royal Society an opinion that the grounds upon which it rests ought to be carefully investigated; and accordingly, Mr. Brodie, and two others of its members, were deputed to practise that experiment which Dr. Wilson Philip states to have so uniformly afforded him the results which induced him and others to arrive at the conclusions above mentioned. At each trial, two rabbits were fed with parsley, after a long fast, and the eighth pair of nerves was divided in both instances; in the neck; one of them continued unmolested, and the other was subjected to the galvanic influence. The conclusions to which these gentlemen came were: 1. That *the respiration did not appear, in any case, to be at all improved by the galvanic power*; and, 2. That *no sensible change was wrought upon the parsley in the stomach, so as to render it in any respect different in appearance to that of the other rabbit, which had not been galvanized*. This was accordingly the report which the Royal Society received.

At a subsequent period, Mr. Brodie divided the eighth pair of nerves in a cat, close upon the stomach, below the branches which supply the lungs, so as to observe the effects upon digestion alone. No symptoms whatever were observed, and the functions of life appeared to continue naturally for a week and three days, at the end of which period the animal was killed. The nervous filaments were found to be completely divided, and digestion seemed to have continued. A repetition of this experiment produced the same result.

Considerable attention having been directed to this point in question, I was induced to institute a series of experiments, with the view of satisfying myself of the accuracy of the assertions of Dr. Wilson Philip, and his supporters: in the first instance, by endeavouring to ascertain how far the process of digestion was affected by dividing the par vagum; and afterwards, of observing the effects of galvanism, if it should appear that digestion was put a stop to by the division of the nerves. It must be premised, that I found some embarrassment, at first, in making myself acquainted with the peculiar appearances of the contents of the stomach, so as to discriminate nicely the different indications of digestion: but repeated observations and comparisons soon led me to comprehend the several states of the food, and the stages of the digestive process. My experiments were conducted with careful observation, and witnessed by gentlemen, from time to time, whose professional talents and acquirements render them fully competent judges of the results.

*Experiment 1.*

The par vagum was divided in the neck of an healthy full-grown rabbit, at half-past three P. M. No symptoms had been observed so late as eleven o'clock, but the animal was found dead in the morning. It had fed on oats prior, and parsley subsequent, to the operation. Dark spots were observed in the lungs, and the heart was full of coagulum. The urinary and gall-bladders were full. The œsophagus was filled with bright-green chopped parsley, and the bronchiæ were full of mucus. The oats were partially digested, and the parsley was of a brownish colour, *very moist towards the cardiac portion of the stomach, and covered with a white semi-fluid layer of mucus, resembling the usual appearance of chyme. The parsley lying uppermost approached more to the bright green of that in the gullet, and was much less moist.* Some slight redness appeared on the surface of the stomach.

*Experiment 2.*

After fasting sixteen hours, a young rabbit was fed with parsley, and the par vagum was immediately divided as before, at three P. M. At half past ten the animal was lying on its side, and drawing its breath with difficulty. In the morning it was found dead. The appearances resembled those of the first rabbit, excepting that there was less redness on its surface. *The parsley was very moist, and brown.*

*Experiment 3.*

A young rabbit was fed with parsley, after a fast of fourteen hours and a half, and the par vagum was immediately divided at half-past eight A. M. At half-past twelve it was couched upon its hind legs, and drawing its breath with difficulty. About four, the difficulty of breathing having increased gradually, the animal died. *The parsley in the stomach was moist, and brown, with a covering of chyme, as before, about the cardiac portion of the stomach.*

The œsophagus was full of bright green chopped parsley, and the other appearances did not differ from those of the two former rabbits in any material degree.

*Experiment 4.*

After a fast of sixteen hours, a young rabbit was fed with parsley, and the nerves were divided as before. Early in the day the breathing seemed to be slightly oppressed, but towards the evening it got better. The animal was found dead the next morning. There was no redness of the

stomach, and the appearance of the food *resembled that of the last experiment*, and the œsophagus was full of bright green chopped parsley.

#### *Experiment 5.*

The par vagum was divided on each side of the trachea of an old horse, at eight P. M. Before the division, a piece of tape was passed loosely round each nerve, so as to separate it from its connexions. Instantly the animal seemed very much distressed, and made urgent efforts to draw his breath and vomit. The nerves being divided, he staggered and fell down, rolled about, and continued to breathe with great difficulty, and in an hour he died. The inspirations were distinct and slow, and the expirations sudden and strong. At first, the heart's action was increased; and latterly, it became slow, feeble, and indistinct. The lungs were greatly turgescient. He died too soon for any remarks on the state of the food in the stomach.

#### *Experiments 6 and 7.*

After fasting sixteen hours, two young rabbits were fed with parsley, and the nerves immediately divided, as usual, at half-past two P. M. At eleven, no difficulty of breathing had been apparent, but in the morning both were found dead. The parsley in both stomachs was *moist and brown*, but in one there was *more chyme than in the other*. In other respects, no deviation from former appearances was observable.

#### *Experiment 8.*

After fasting sixteen hours, a puppy dog was fed with cold meat, and the par vagum was immediately divided on both sides, at three P. M. Touching the nerve with a forceps brought on efforts to vomit and oppressed respiration, and immediately on their being divided, these symptoms became aggravated, and some of the meat was thrown up. In a few minutes he appeared relieved, walked about, and, at distant intervals only, seemed to draw a long and slow inspiration, followed by a short expiration. On lapping some milk, he vomited again, and was again relieved. Afterwards he lapped more milk, and this was followed by slighter efforts to vomit, which soon went off. In the evening he again lapped some milk, and threw it up directly afterwards. Subsequently he took more milk, but did not make any farther efforts to vomit. No difficulty of breathing occurred since the afternoon; and he ran about as well, to all appearance, as he was before the operation, and subsequently to the last vomiting he took a saucer full of milk. At nine the following

morning he was observed to draw his breath with long and slow inspirations, at distinct intervals.

About twelve the breathing became still slower and more laborious; he lay gasping on his side, and died before one.

The stomach was entirely free from redness, and contained merely a little fluid resembling *whey*. Hence it appears, that the milk taken subsequently to the last vomiting had been *regularly separated by the digestive process, and the curd dissolved and passed away*. The quantity of fluid was scarcely a quarter of what the puppy had drunk. The lungs were studded with dark spots, and the bronchiæ were full of mucus.

#### *Experiments 9 and 10.*

Two young rabbits, having fasted twenty hours, were allowed to feed on parsley, and directly afterwards, at three P. M., the par vagum was divided as usual. Before six, the breathing of one of them became affected, and it made efforts to vomit, and died before seven. At twelve at night, the other was not apparently affected, but was found dead in the morning. It ate some parsley during the evening, which brought on efforts to vomit, but which went off again. In the first rabbit, the œsophagus was full of bright green parsley, and in the stomach it was of the usual *brownish tint, and moist, with some little chyme*. In the second rabbit, the parsley in the stomach was *much more moist and brown*, and it had *a far greater proportion of chyme attached to it*. The lungs in both were covered with dark red spots, and the stomach of the second had more redness than that of the first.

#### *Experiments 11 and 12.*

The nerves were divided as usual in two young rabbits, after fasting twenty-four hours. They were then allowed to eat of parsley, which they did heartily, and ran about afterwards in a lively manner. Both were very soon attacked with efforts to vomit, but one more severely so than the other. The first rabbit breathed laboriously within half an hour after the operation, which was performed at three P. M., and it died before five. The second rabbit was affected a quarter of an hour later, and lived till eight. In the stomach of the first rabbit, which scarcely lived two hours, the parsley was moist, and *approaching* to the usual brown tint, but *much less so than in those which had survived a longer period*; and there was also a *very small proportion only of chyme*. In the pyloric portion of the stomach there was a small ball of dried and perfectly brown parsley, the remnant evidently of a former meal, probably after all its nutritious qualities had been

dissolved; an appearance which, I understand, is usually observed in the stomachs of rabbits after the longest fasts. The contents of the second rabbit's stomach were *considerably more moistened, much browner, and enveloped with more chyme* than in the first rabbit, which scarcely lived two hours.

#### Experiment 13.

A young rabbit was kept without food sixteen hours, and then fed with parsley, and at two P. M. the nerves were divided as usual. For the purpose of observing whether the *diaphragm* acted freely, an incision was made into the abdomen, close to the ensiform cartilage, and it was found in full and regular play. At five o'clock the animal was lively, ran about, and seemed unaffected.

The diaphragm still acted freely, and there was no slowness of respiration. At different periods of the evening it had eaten of lettuce and parsley. After seven, it was not seen till past eleven at night. It was then found couched on its hinder legs, and gasping for breath. On touching the diaphragm, the lungs were scarcely to be felt in motion. The rabbit was then killed by a blow on the occiput. The stomach contained parsley *converted to a brown colour; it was very moist, and surrounded with chyme*, while the œsophagus, as usual, was filled with *bright green chopped parsley*.

#### Experiment 14.

A horse, of fourteen years old, in good health, had the par vagum divided on each side of the windpipe, at eight o'clock P. M. No symptoms occurred immediately, as in the experiment of the former horse, from applying a piece of tape round each nerve, nor upon dividing them. Previous to the operation some hay was given. Shortly after the operation, the horse appeared slightly oppressed in his breathing. He drank water, but refused to eat. In a few minutes he lay quietly down, and then breathed with long, slow, and distinct inspirations, and sudden and forcible expirations, but not accompanied with the noise and violence which the other horse exhibited. The respirations were no more than twelve in a minute. There was slight perspiration about the head and neck. The pulse rose to 72, and it beat full and strong. Afterwards it rose to 80, but it was now much weaker. Fæces were voided after the operation naturally. The respirations became slower. Before twelve, he endeavoured to eat, but it seemed to excite uneasiness. By midnight all symptoms had vanished. The whole of the next day the horse continued, to all appearance, perfectly well, ate his hay, but refused to drink, and walked about. The pulse and the

respirations were natural during the day. Early the following morning he exhibited signs of uneasiness, and refused to eat or drink. The pulse became rapid and weak; the respirations were only six in a minute. In this state he died at ten P. M., without any violent efforts to vomit, or any struggles to breathe, having survived the operation fifty hours, *twenty-four of which he passed entirely free from symptoms.* In the stomach was found some hay in a masticated state, *but considerably less than the horse had eaten. The duodenum was empty.* In the colon there was some hay, the remnant of former meals, and some of that eaten since the operation. There was *no distention of the stomach,* nor was there any redness of its surface.

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The foregoing experiments are sufficient for the object which I had principally in view in making them. Since I brought these experiments to a close, Mr. Field, junior, (son of Mr. Field, the veterinary Surgeon, to whose liberal zeal in the cause of science I am indebted for the experiments on horses,) has favoured me with the following accurate narration of the effects of dividing the eighth pair of nerves in a third horse. I much regret that I had not an opportunity of witnessing this experiment; but, as it is the only one which has come under my notice in which digestion appears to have been entirely arrested, I feel myself bound in candour to add it to those cited, in which the function of digestion was continued after the division of the par vagum.

The subject of this experiment was a bay gelding, twelve years old, and in good health. The nerves were divided as before, at seven P. M., and immediately the slow breathing, as in the last case, came on, with slight perspiration about the head and ears. The respirations shortly fell to six in a minute, and the pulse was at 80. The animal ate some hay at intervals, and was not apparently much disturbed. The following morning the breathing was as the night before, and continued throughout the day equally slow, but free from violent efforts. In the evening the respirations fell to five in a minute, and the pulse was at 90, with its usual fulness. On the second morning after the operation the respirations were four in a minute, and the pulse at 90 as before. Some fæces had been passed naturally, and he had staled. He had also eaten of hay as usual. On the third morning the respirations were still at 4, and the pulse rose to 96, and at seven in the evening he remained breathing quietly, but slowly, as before. At ten minutes past seven he suddenly began to labour violently in drawing his breath, which was accompanied

by a noise that attracted the attention of persons at some distance. The mouth was wide open, and the nostrils dilated. He exhibited great anxiety and debility, fell down and struggled violently, and presently rose again, still making urgent efforts to breathe.

In this state he was stuck, and the body immediately examined, having survived the operation about sixty hours and a half. Both nerves were found properly divided. The colon and cæcum were distended with fæces. The stomach contained twenty-six pounds and a half of masticated hay, without fluid, and it emitted a sour and fetid odour. No inflammation was perceptible. The œsophagus was full up to the pharynx. A small portion of hay had found its way into the trachea, which, as the animal was masticating at the time that his cries brought persons to his assistance, may probably have slipped in at that period.

(To be continued.)

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## PART IV.

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### FOREIGN MEDICAL SCIENCE AND LITERATURE.

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#### I. ANALYSIS OF NEW BOOKS AND MEMOIRS.

*Quelques Considérations de Physiologie Pathologique sur les Rapports Particuliers et Réciproques qui existent entre le Cerveau et le Foie.* Par J. BRICHETEAU. pp. 19. (Journal Complémentaire du Dict. des Sciences Médicales.) 1820.

*Mémoire sur les Altérations et sur l'Influence du Foie dans plusieurs Maladies, et sur les Moyens Curatifs qu'elles réclament.* Par J. B. REGNAULT, Médecin consultant du Roi, &c. Paris, 1820. 8vo. pp. 42.

THE co-existence and complications of the various morbid affections in the internal organs have not attracted the attention which the importance of the study demands. While the pathology of the brain, the heart, the lungs, the liver, and stomach, has perfectly rivetted the mind, and been illustrated by the labour of gifted and zealous men, the co-existent or consecutive derangement of two or more important viscera, and the influence which they reciprocally exert in the production and maintenance of diseases, have been inexplicably lost sight of, or neglected. It has been too much the fashion to view the diseases of organs in a manner too insulated, and

not sufficiently comprehensive; and to forget how essential to the prognosis and treatment of any case of organic lesion, is a correct knowledge of the state of the other principal viscera. The eye of the Physician, like that of the commander on the field of battle, should be every where, or he will be taken by surprise in some unguarded quarter, and utterly defeated, when dreaming of nothing but success. During some slight and apparently yielding affection of the liver or intestinal canal, and while the attention of the Practitioner is exclusively directed to the abdominal region, a violent attack on the brain or heart will sometimes occur, and abruptly destroy the patient; or incurable mischief may be going on in the kidney, when, to the superficial observer, the stomach alone exhibits signs of derangement.

By such considerations, we have ever been led to view with pleasure, and recommend with earnestness, every attempt of authors to improve a department of pathology at once so capable of cultivation and so inadequately cultivated. In this spirit, we recently transcribed and introduced to our readers an interesting memoir by Dr. Bricheteau, on the influence of the heart upon the brain\*; and now proceed to notice a communication by the same able writer on the relations existing between the brain and liver.

After some unimportant introductory remarks, the author considers, —

*I. The Influence of the Brain upon the Liver.* — The pernicious influence which mental affections and the different passions exert on the human organs, is well known; but, besides this general influence, the brain appears to act upon the liver in a very peculiar manner, both in health and disease — in external and internal lesions. This fact, the object of consideration here, has been noticed by many eminent writers, and is forcibly illustrated by the remarks of Dr. Bricheteau, and a few cases drawn from his own experience, or the records of preceding authors. One of the former we shall transcribe: —

A woman, aged thirty-two, of bilious temperament and extreme sensibility, was brought to l'Hôtel-Dieu in a state of profound melancholy, from the ingratitude and ill usage which she had experienced. Next day, intense jaundice, with pain and tumefaction of the hepatic region, and all its concomitant symptoms. Depletion from the hæmorrhoidal vessels, and other remedies, were unavailing; and the patient speedily sunk under diarrhœa, with marasmus. From many facts of this nature, the author suspects that the liver, whose

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\* See REPOSITORY, Vol. XIII. page 427.

left lobe frequently extends into the epigastrium, is, in great part, the seat of those violent sensations and constrictions which are felt in this region, when a powerful and sudden impression strikes the brain.

Physical lesions of the brain may also determine certain affections of the liver, or at least there exists between these two kinds of diseases, a remarkable connexion. Wounds of the head, for instance, may be followed by abscess of the liver; but this phenomenon is by no means so common as some modern authors assert. One example only of it is recorded by Morgagni. Richerand believes that the cause of this pathological coincidence may be invariably referred to the simultaneous commotion sustained by the liver and brain. This, Bricheteau is convinced, may be sometimes, but is not always the case. Of this curious connexion, several instances may be cited. One of the most striking is that recorded by Desault, wherein a soldier, who had received two sabre cuts on the head, died from the wound; and on dissection the liver was found ulcerated in several places.

It is not only in consequence of wounds on the head, that the liver is susceptible of consecutive affection. The same coincidence has been observed in apoplexy by Morgagni\* Chambon, and Andouille. The latter has also seen gangrenous affections of the liver consequent on severe lesions of the brain. By Wenzel, a man is reported to have died of fungus of the dura mater, in whose liver numerous tubercles existed; and Haufmann has, in a similar case, seen the liver disorganized and adherent to the peritonæum. The intimate connexion between the brain and liver is evidenced not only by the coincidence of development, but by the identity of the chronic progress of the two affections in these last cases.

II. *Influence of the Liver on the Brain.*—This second part contains observations less known than the first, and considered under a new point of view. The same correspondence by which the liver is susceptible to the influence of cranial lesions sometimes establishes an inverse order of phenomena, when the liver is first affected. This reaction of the liver on the encephalon, if not duly appreciated, was suspected by the ancients, as the writings of their poets and Physicians testify. The Greeks regarded insanity as resulting from the action of bile; and, by several modern Physicians, diseases of the liver have been viewed as a common cause of hypochondriasis and mania. In a case mentioned by Hebreard, gangrene of the arm, consequent on complicated fracture,

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\* In the body of an apoplectic, Morgagni found the gall-bladder remarkably altered, and the liver inflamed, and in some places livid.

required amputation. The discharge was suddenly suppressed; madness and death ensued; and on dissection an abscess was found in the substance of the liver; the other viscera sound. The same author records a case of idiotism, exclusively dependent on organic lesion of the liver. Retention of bile, and the presence of biliary concretions in the gall-bladder have been regarded by Morgagni and Haller as the cause of apoplexy and other cerebral affections: and Bichat considered inflammation of the brain, in wounds of the head, to be essentially determined by reaction of the biliary organs on the encephalon, the commotion of which had first acted on them. The delirium, with or without fever, sometimes attendant on jaundice or hepatitis, seems to be one of the most common effects of the sympathetic connexion between the liver and the brain. Three cases of this nature, the last of which terminated fatally, are here introduced.

In a fourth case, that of a female, in which the principal symptoms were occasional drowsiness, and silent delirium; difficult elocution; fixed eyes, dilated pupils; febrile pulse; hot skin, terminating in profound coma and insensibility. The encephalon and thoracic organs presented, on dissection, no alteration; the liver was much enlarged, of a whitish grey colour, with here and there fatty patches; the larger lobe had encroached on the right thoracic cavity. On incision of its superior part, which presented a soft and fluctuating point, a brownish serum escaped, with numerous cysts of variable size, containing whitish and limpid serum. The cavity itself was six inches in diameter, and completely lined by a fibro-cartilaginous membrane, confounded externally with the substance of the liver. Besides these cysts, several membraniform shreds were observed, consisting, as proved by chemical analysis, of albumen and gelatine—and, without doubt, the material of undeveloped hydatids. A packet of the same in the left lobe of the liver; the organ in other respects sound.

Drowsiness and coma have been noted, by Professor Portal, as remarkable symptoms in some diseases of the liver. A child, attacked with violent headach and paraphrenitis, fell into profound and fatal drowsiness; and on dissection no alteration was discovered in the brain; but the gall-bladder was of prodigious size, and full of blackish bile. And a lady, suffering from hepatic colic, sank on each attack into profound coma; and after death, with a severe affection of the liver, a little serum was found effused in the brain.

Some very reputable men will admit the existence of no other relation between the organs except that which results

from general sympathy; but the opinions of the best observers is against them. As to those who assert, that pulmonary suppuration is, as frequently as hepatic, consequent on wounds of the head, and that delirium and other cerebral lesions accompany pneumonia and enteritis as often as diseases of the liver, they seem to rest their opinion on insulated and obscure facts. But the question is one of pure theory, destitute of obvious utility, and interesting in its solution only to those who enter, with the modern spirit of analysis and investigation, into the study of physiological and pathological phenomena.

A physiological explanation of the facts above adduced cannot, in the present state of our knowledge, be given. If a physical cause have sometimes induced simultaneously affections of the brain and liver, such cases are few, and commonly objectionable. Thus the opinion of Richerand, that the co-existence of lesions of the liver with those of the brain is dependent on the mechanical injury sustained by the former organ, is controverted by the many instances wherein hepatic abscess has followed wounds of the head without commotion, and by the non-existence of injury of the liver in the bodies of persons who have been killed by falling from very elevated situations. The fissures sometimes found on the surface of the liver, are probably the consequence of direct injury inflicted on the right hypochondrium, in the fall from which the head has suffered. If any lesion were sustained by the liver in a fall upon the head, the peritonæum connecting it to the diaphragm would be more likely to give way than the substance of the biliary organ itself, surrounded by soft parts, and supported, as it would be in such a case, by the diaphragm. And Richerand has farther to explain the disorder which takes place in the functions, and even structure of the brain in consequence of diseases of the liver. The ingenious hypothesis of the distinguished Professor is again invalidated by the objections which Pinel has set in array against it. Even Gaultier de Claubry, an advocate of the doctrine, admits that he has seen several cases, wherein very violent concussion and fracture of the cranium, with affection of the brain, were not succeeded by suppuration of the liver.

Dessault, rejecting the hypotheses of Bertrandi and Pouteau, admitted the existence of a real but unknown relation between the brain and liver—more especial than between the other viscera; and thought that the nervous system was the principal agent of communication here, uninfluenced, except indirectly, by the circulation. Succeeding authors, particularly Portal and Larrey, have advanced the same opinion in other terms. But its accuracy is questioned by Briche-

teau, who contends, that the mutual organic dependence here shown bears a character so peculiar, as apparently to be referrible to some cause different from that of the general sympathy which exists between every part of the animal economy. What this cause is, he pretends not to explain. Nerves transmit pain; and thus one organ may be affected by the morbid state of another remotely situated; but pain, thus transmitted, cannot be reasonably supposed to induce abscess, or other organic lesion. Such are the opinions of Bricheteau; and he supports them by reference to neuralgic affections, in which, he asserts, that notwithstanding the agonizing pain, no morbid change can be detected in the structure of the nerve implicated, nor in the parts which it supplies. A case of spasmodic jaundice, noticed in this memoir, as consequent on a moral affection, might, he admits, originate from a cerebral disorder transmitted by the nerves; but even here there existed only derangement in the biliary secretion, without any physical lesion of the liver, as is proved by the rapid recovery of the patient. Of this same description is the vomiting which supervenes in wounds of the head and acute hydrocephalus, where the stomach is suffering only from a vital, commonly called a sympathetic lesion; and organic alteration never ensues, or at least only as an accidental complication.

The second memoir, whose title is placed at the head of this article, is the production of Dr. Regnault, Editor of the *Journal Universel des Sciences Médicales*\*. This gentleman, during the stormy period of the French revolution, and the misfortunes and exile of the Bourbon family, took refuge, we understand, in this country; and here probably, in the liver school of the metropolis, imbibed the opinions somewhat too pompously and confidently announced in the present work. With him the liver is every thing. Scarcely does there exist one in the whole catalogue of human diseases, wherein, if we are to believe Dr. Regnault, the biliary organ is not primarily, or at least so importantly affected, as to demand great attention in the curative plan.

The application of leeches and the warm bath are sovereign remedies, with Dr. Regnault, in the treatment of diseases of the liver, and particularly hepatitis. When the right hypo-

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\* He is now Physician to the King, and loaded with honours and distinctions—whether deservedly or not, it is not for us to determine; His memoir has been most unmercifully criticized in the *Nouveau Journal de Médecine*, by his countryman, Rostan, whose observations on unmerited titles are not less pertinent than severe.—F. E.

chondrium is painful on pressure, the blood should be drawn from that region; when otherwise, from the vicinity of the hæmorrhoidal vessels. From ten to twenty leeches should be set on, according to the strength and constitution of the patient. Venesection is rarely indicated, except in very plethoric subjects, and even then should be followed by local blood-letting. The bath is almost equally useful in either case, and sometimes operates an unexpected resolution of the disease. The longer the immersion is continued, the more efficacious will it prove. The abuse of vomits in these affections, and particularly in bilious inflammation of the pleura and lungs, is much to be dreaded; they only aggravate the thoracic irritation, and induce spasm of the biliary ducts. Even where really indicated, the emetic should be preceded by the application of leeches. Calomel and other purgatives are only necessary when there is a lodgement of indurated fæces in the intestinal canal, and should only be employed after emollients. Neither they nor bitters are to be exclusively relied upon for the cure of chronic affections of the liver.

Eight *successful* cases, illustrative of the doctrines advocated by Dr. Regnault, are detailed in the course of the memoir; some of them, as evidently partaking more of the character of pneumonia than hepatitis, not very creditable to the author's skill and accuracy in diagnosis: all, too, we repeat, *successful*;—no deaths—no dissections—no description of the various morbid alterations to which the liver is subject—nor any detail of the signs by which they may, during life, be distinguished.

Such are the opinions and doctrines of the Physician of the King of France, after twenty years' sojourn amid the enlarged and morbid livers of our luxurious capital, and long experience of our bold and successful treatment of hepatic diseases. If, in England, Dr. Regnault have acquired a knowledge of the "bane" of human health and enjoyment, it is as certain, as much to be deplored, that he has left the "antidote" behind him.

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## PART V.

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# MEDICAL AND PHYSICAL INTELLIGENCE.

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*Reply of Dr. SCUDAMORE to Dr. W. PHILIP on the Malvern Waters.*

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MY attention being directed to Dr. W. Philip's observations in the MEDICAL REPOSITORY for December, 1820, upon the report of the properties of the Malvern waters, which I published last year in my Treatise on

Mineral Waters, I felt it to be immediately due, both to that gentleman and myself, to institute a further investigation of the subject, and correct any errors into which I might have fallen, in the examination of waters of such remarkably slight impregnation as distinguishes the Malvern springs. In order to obtain the surest results, and in the most impartial manner, I requested my friend, Mr. Children, to have the goodness to examine the waters from the Holywell, and St. Anne's springs, in reference to the points of difference between Dr. W. Philip and me; taking care to furnish him with sufficient portions of each water, sent to me in new clear bottles, by Mr. Beale, Surgeon at Malvern, who obligingly executed my commission with all the necessary care. I now subjoin the letter with which I am forwarded by Mr. Children.

"MY DEAR SIR, — In compliance with your wish, I have examined the Malvern water, with the view to discover whether it contain any trace of iron, and also if the quantity of solid matter in the St. Anne's and Holywell springs, be equal for an equal bulk of water. I am sorry that other engagements obliged me to defer the experiments so long; but I think the results will, nevertheless, be conclusive. — Should they not appear so, and either you or Dr. Philip desire it, I will, with pleasure repeat them on more recent water, on being favoured with it.

"It may be right to state, that more than six weeks have elapsed since I received the water, but no perceptible deposit had taken place in any of the bottles.

"I found, by the mean of three experiments, the specific gravity of the water from St. Anne's Well . . 1000·0744.

Holy Well . . . . . 1000·1488.

"Their weights were taken in a small bottle, with a perforated stopper, similar to that used by Dr. Marcet, and compared with the weight of another of an equal bulk of distilled water, at exactly the same temperature, and taken at the same time, by a balance sensible to the hundredth of a grain. The examination of both waters was conducted in the same manner.

"The whole contents of one of the bottles of St. Anne's Well water containing 27·5 ounces were heated in a glass retort, till 22 ounces had distilled over. The temperature was higher than that used by Dr. Philip, though under the boiling point, and the water in the receiver was perfectly clear, without the slightest deposit, and gave no precipitate, either with hydrochlorate of baryta, or nitrate of silver.

"The remaining fluid was carefully transferred to a weighed glass basin, and evaporated to dryness at a very gentle heat; and the solid residuum was exposed in the lamp stove to a temperature between two hundred and twelve, and two hundred and eighteen degrees, and weighed as quickly as possible. Its weight was 0·72 of a grain = 3·35 grains per gallon. The bottle containing the water was well shaken to detach any deposit which might have separated by standing. It came out, however, perfectly clear, and there was no perceptible portion left in the bottle.

"The solid matter in the glass basin had a slight brown tinge; but a portion of it, heated to redness on a slip of platina foil by a spirit lamp, became perfectly white. It was treated with pure dilute hydrochloric acid, evaporated to dryness, redissolved in distilled water, and filtered.

"With ammonia, it became turbid, and acquired a very slight brown tinge, and flocculi of the same colour gradually subsided.

"Tincture of galls gave a very slight brown tinge to the liquid, which became rather deeper and more purple on standing.

"Prussiate of potassa gave a decided blue tinge.

"A comparative experiment with the last test and distilled water, slightly acidulated with the same hydrochloric acid, gave no blue colour.

"It is evident that this water contains *some* iron, but in quantity most extremely minute.

" Twenty-eight ounces of the Holywell water, similarly treated, gave off by distillation nothing but pure water.

" The solid residuum weighed one grain, = 4.57 grains per gallon.

" As the waters were evaporated in a close vessel, by Dr. Philip's desire, the weight of the small crust adhering to the retort, not removable by water, should have been added, both in this case and in that of the water of St. Anne's spring, to the weights obtained, if it had been important to ascertain the absolute quantity of their solid ingredients; but for the mere purpose of getting their comparative quantities, that step, being unnecessary, was omitted. The portion left in the retort, in either case, was very minute.

" The indications of iron, by the tests used in the preceding experiment, were, as in that case, decisive as to its presence in the Holywell water; but in quantity it scarcely appeared to exceed that in the water of St. Anne's Well. The bottles which had contained the waters, were washed with dilute hydrochloric acid, heated in them nearly to boiling in a water bath.

" Each quantity being distilled to dryness, and separately examined by the preceding tests, afforded proofs of the presence of a further very minute portion of iron.

" Agreeably to your desire, I have made some experiments, to determine the extent of the action of the tincture of galls and prussiate of potash, as re-agents for iron. With this view, I formed a nearly neutral solution of muriate of iron, containing a known quantity of iron. This solution was mixed with various proportions of distilled water, and one drop of the test added to each portion. In this manner I found, that the tincture of galls produced a distinct purple shade, in the space of two or three hours, when the proportion of iron was that of one seventieth of a grain in the gallon, and the quantity of water three ounces; but by employing a large quantity of water in a glass jar (45 ounces), I derived distinct evidence of the action of the test, although the proportion of iron was rather less than that of one hundredth of a grain in the gallon.

" It appeared to me that the prussiate of potash was about equally sensible; but, for obvious reasons, it is not so unequivocal a test for iron as the tincture of galls.

" I remain, dear Sir,

" Yours very truly,

Montague Place, Feb. 21, 1821.

" JOHN GEORGE CHILDREN."

### Observations.

From the results of the foregoing examination, it appears to me that I have no occasion to change any part of my Medical Report of the Malvern Waters, which, as medicinal agents, I cannot consider to be sufficiently impregnated to act as chalybeates; and it may fairly be entertained as a question, To what extent are these very pure waters to be considered medicinal? They approach very nearly to the condition of distilled water; but may certainly be allowed to deserve additional regard, from possessing some useful impregnation, although to a very slight extent, with muriate of lime and carbonic acid: the sulphate of soda is in the most trivial proportion. I examined the waters at the springs, with the necessary re-agents; and could not, by means of tincture of galls and prussiate of potash, discover the slightest indication of iron. Knowing, from my various trials with chalybeate waters, and by comparative experiments, the exceeding delicacy of these tests, I formed the conclusion that these springs were free from iron; and from my subsequent examination in London, where the analysis which I have published was made, I did not find reason to alter my first opinion. It appears, however, that I am *chemically* in error, as Mr. Children has detected the actual presence of iron. But in what proportion? It seems conclusive that it cannot exist in the quantity of one seventieth of a grain in the gallon; for in that proportion, in the comparative experi-

ments, the tests were sensible\*, with a small quantity of water. Is it probable that iron, in a proportion so infinitely minute, should produce any positive action on the animal economy?

I have also to observe, that Mr. Beale sent me a phial of water from each spring, containing a slice of the gall-nut, suspended to the cork; but I could not distinguish the faintest shade of purple.

In examining the specific gravity of the two waters, I was not able, with my balance, which was only sensible to the tenth of a grain, to discover the nice difference which Mr. Children detected, with his more delicate instrument. The evaporation of the waters was conducted with all possible care, and equal quantities of solid residuum were obtained from equal portions of each water.

Dr. Philip states, that the proportion of carbonate of iron in the Holywell water was more than half a grain in a gallon (0.625), and of total solid contents, upwards of fourteen grains and a half (14.6109 grains): the carbonate of iron in St. Anne's Well, 0.328 of a grain in the gallon; and of total contents, 7.395 grains. I wish to forbear from further observation on the difference of our results. May it be considered that the springs have undergone some change of properties, in the course of several years? Dr. Philip's Analysis was published in 1805.

In reply to Dr. Philip's remark, that I have not given any detailed account of the experiments by which I arrived at my results, I beg to refer him to my observation, p. 239, in my Treatise, and to my full statement, pp. 135, 136, of the method by precipitants, adopted in the examination of all the waters of which I have treated, except with those which were examined by more laborious analysis. In p. 136, I requested the indulgence of the chemical reader, by stating, "that the examination of so many waters by the direct mode of analysis, would have demanded the undivided time and attention of a practical Chemist. The indirect mode, by means of precipitants, serves every useful purpose for obtaining a medical knowledge of a water, if even it should not be thought the most eligible for perfect chemical accuracy."

I have to apologize to Dr. Philip for my mistake, which he notices, in assigning the words of Dr. M. Wall, in the statement of Exp. 1, to him; but, as will appear from the following passages, extracted from Dr. Philip's Analysis, my inaccuracy, as respects the result, has not been very important.

"*Exp. 1.*—To a glass of the water at the spring head, a small quantity of lime-water was added. Small distinct flocculi formed, and floated throughout; but not numerous."—Dr. M. Wall, p. 1.

"*Exp. 1.*—On repeating the first experiment of Dr. M. Wall, I found the result as he has stated it. Lime-water was mixed with Holywell water in equal quantities at the spring. Although the transparency was not at first disturbed, in a short time they became slightly turbid, and small flocculi were seen floating in the water."—Dr. W. Philip, p. 3.

P.S. It is with much reluctance that I become thus tedious; yet, being desirous to take final leave of the discussion, I must advert to Dr. Philip's observation, "that when the waters had been kept some time, the quantity of iron obtained was too small to be appreciated." It happened unfortunately, that Mr. Children's other engagements did not allow him to examine the waters until six weeks after their arrival in London; but when it is considered, that the bottles containing the water "were washed with dilute hydrochloric acid, heated in them nearly to boiling in a water bath," I apprehend that it will not be conceived, by the most sceptical Chemist, that any precipitate of iron could, after such a process, remain behind undetected.

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\* It may fairly be assumed, that the tests would act with at least equal delicacy upon iron, held in solution by carbonic acid, as the affinity of carbonic acid for iron is weaker than that of muriatic acid.

TO THE EDITOR OF THE MEDICAL REPOSITORY.

SIR,—If you can give the enclosed a place in the REPOSITORY as a circular just issued by Dr. Jenner, I think it would add to its utility in the medical world, and aid in giving check to the present spread of varioloid diseases:

I am your's, &c.

JOHN FOSBROKE.

Presuming that you are conversant with the practice of Vaccine Inoculation, according to the instructions which I have formerly published, and that you may have seen, in addition to my general observations, those which I have since made and promulgated, respecting the "Varieties and Modifications of the Vaccine Pustule, occasioned by an herpetic and other eruptive states of the skin," I take the liberty of requesting to be informed, whether the observations acquired in your own practice coincide with mine? That is to say, whether the Vaccine Vesicles, under these contingent circumstances, go through their course with the same regularity as when the skin is free from diseases of this description?

*Secondly*, Whether, on the other hand, such individuals are more liable to resist the legitimate action of Vaccine Lymph, when inserted into the arms, than those who are free from such eruptive affections?

*Thirdly*, Whether you have met with cases of Small-Pox, or what has been termed the Varioloid Disease, after Vaccination; and if so, whether, in such cases, you ascertained those deviations at the time of Vaccination in the progress of the pustules on the arms, which I have described as liable to take place when the skin is affected with herpetic, and other eruptions?

As you may not have the paper before you, to which I here allude, nor the short series which followed it, I will point out the periods of their publication, and where they are to be found. The first was published in the Medical and Physical Journal, No. 66, for August, 1804, and gives an outline of the subject, of some extent. It points out the fact, that a single serous blotch upon the skin, existing during the progress of the Vaccine Vesicles on the arms, may occasion such irregularity and deviation from correctness, that Vaccination, under such circumstances, cannot be perfectly depended on.

I have found abrasions of the cuticle to produce the same effect; such for example, as we find in the nurseries of the opulent, as well as the cottages of the poor, behind the ears, and upon many other parts where the cuticle is thin. Happily we find no irregularity in the Vaccine Vesicle in an uncontaminated skin; but we find it if the skin is beset with these herpetic blotches, or even simple serous oozings from an abraded cuticle. It is not to be considered as of less consequence, when occupying a small space; a speck behind the ear, which might be covered by a split pea, being capable of disordering the progress of the Vaccine Vesicle. Dandriffe may be considered as a malady of this class, the incrustation on the scalp being formed from excoriation beneath; and however slight, for there is every gradation between a thin scurfy layer, of a dirt-looking substance, or even patches of this thin crust, and Tinea itself. However, fortunately for the safety of the Vaccine Practice, and fortunately, too, for the ease of the practitioner, all these affections of the skin may be removed with very little trouble\*. Sore eyelids are also impediments to constitutional Vaccination.

The second paper, relating to this subject, was given by the late

\* The most effectual application which I know for subduing these cuticular diseases, that produce impediment, is the Unguentum Hydrargyri Nitratis, as much lowered with Unguentum Cetacei, or any other bland ointment, as the irritability of the subject may require. The Dandriffe demands a double process: the *first* consists in removing the incrustation, the

Dr. Willan, in answer to the following interrogatory, addressed to me by himself. "What are the changes produced in the vesicle, when a person is affected, during Vaccination, with the Shingles, the Vesicular Ringworm, or Impetigo?"

To this question I made a full, and, I believe, a satisfactory reply. Its purport will be shown by quoting a few sentences from it. "To answer this question in its fullest extent, would lead me through a wide field of observation, which I mean to go over at a future time; but the following answer may probably convey to you as much information upon the subject as you may now require." "Vaccination, under the circumstances you mention, usually produces a striking deviation from the perfect character of the Vaccine Vesicle at some period or other of its progress, but more frequently in its early than in its declining stages; indeed, it is more commonly perceptible in a day or two after inoculation. It would be difficult, perhaps impossible, without the aid of drawings, to give a correct description of the varieties which an herpetic state of the skin is capable of producing, from those trifling deviations which prove no impediment to the Vaccine security, up to that point of imperfection in the vesicle which affords no security at all. Perhaps I commit an error in saying, "*no security at all*," for it strikes me, that the constitution loses its susceptibility of Small-Pox contagion, and its capability of producing the disease in its perfect and ordinary state, in proportion to the degree of perfection which the Vaccine vesicle has put on in its progress, and that the Small-pox, taken subsequently, is modified accordingly. When no deviation takes place in the ordinary course of the Vaccine vesicles, or when it is inconsiderable, the herpetic blotches or vesicles, of whatever kind they may be, often assume (sometimes as early as the third or fourth day after the insertion of the Vaccine fluid) a new character, not unlike the Vaccine, and, keeping pace in their progress with the vesicles on the arm, die away with them, leaving the skin smooth."

These two papers comprehend, first, the simple fact of important deviations being produced by diseases in pre-occupation of the skin; and, secondly, a general account of the characters of these deviations, and their differing degrees of influence upon the Vaccine protection.

Some further observations were published by Dr. Wilson Philip, M.D. of Worcester, in an Appendix to his Work on Febrile Diseases, who requested some information from me on this interesting subject. This letter goes more into detail than the former, though its purport is the same—namely, to guard the practitioner against the insidious influence of a diseased skin, when he vaccinates. It will be an object of future consideration, to enter more generally into the minutiae of this subject; but a sketch like this does not afford scope for the completion of such a design. Let me advise every practitioner, not to confine his cautions, nor to narrow my meaning, to one class of eruptive affections. In short, every disease of the skin, which may be called *serous*, or one that sends out a fluid capable of conversion into a scab, has the power of exerting this modifying and counteracting influence; and I have also seen purulent fluids exert a similar influence in producing deviations. If I was asked what were the other actual impediments to perfect Vaccination, as a general answer I should say, that I scarcely know any other except spurious matter, or impediments too obvious to require my naming them here, such as deranging the Vaccine vesicle in its progress, by incautiously robbing it of its contents, or producing a new action by internal violence.

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*second* in subduing the oozing. There are skins that will not well bear unctuous applications; the desiccative lotions may then be made use of two or three times a day; such as those prepared with the sulphate of zinc, or superacetate of lead, &c.

## A METEOROLOGICAL TABLE,

*From the 21st of JANUARY to the 20th of FEBRUARY, 1821.*

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge.	Winds.	Weather.
	Max.	Min.	Max	Min.			
21	30	23	30	13	48	35	SW.. 1 Sun.. 2 Cloud..
22	30	34	30	27	48	28	NbE.. 1 Rain. 4 Moon...
23	30	35	30	18	42	27	W.SW. 1 Sun....
24	30	18	30	18	45	39	WSW. 1 Sun....
25	30	18	30	16	45	27	N. 1 Cloud.. 2 Sun...
26	30	09	29	99	35	27	WNW. 1 Sun... 3 Mist... 4 Starl...
27	29	86	29	79	34	23	S. 1 Mist...
28	29	76	29	75	35	28	SSW. 1 Cloud...
29	29	64	29	64	43	29	03 SSE..SW... 1 Sun.. 3 Show. 4 Starl..
30	29	71	29	66	49	42	SW... 12 Cloud.. 3 Sun. 4 Starl.
31	29	74	29	71	52	45	SSW..SW.... 1 Cloud..
1	29	61	29	59	52	40	12 SW.... 1 Cloud.. 2 Sun.. 4 Rain..
2	29	77	29	64	44	39	WSW..SW.... 1 Sun... 4 Cloud..
3	29	56	29	47	46	41	SW... 1 Cloud..
4	30	17	29	97	44	27	NW.. 1 Sun.. 4 Starl....
5	30	21	30	14	38	27	W.SW.. 1 Sun.. 3 Cloud..
6	30	09	30	02	46	34	SW... 1 Sun..
7	30	05	30	04	49	34	SW...SSW.. 1 Sun... 3 Cloud..
8	29	97	29	89	47	27	SW.. 1 Sun.. 4 Moon....
9	30	03	29	89	43	28	W.WNW. 1 Sun....
10	30	05	29	98	45	22	NW.E. 13 Sun... 2 Cloud.. 4 Moon....
11	29	98	29	96	34	18	SW.S. 1 Sun....
12	30	04	30	04	37	20	Calm ENE. 1 Mist...
13	30	03	29	95	42	34	EbN. 1 Cloud.. 2 Sun..
14	29	98	29	94	41	32	10 NE. 1 Cloud.. 4 Sleet.
15	30	08	30	08	41	34	04 N.E.N. 1 Cloud... 4 Rain.
16	30	05	29	97	44	26	NW.W. 1 Sun....
17	29	83	29	74	42	33	W. 13 Sun.. 2 Cl.. 4 Moon....
18	29	96	29	83	46	26	16 N.NW. 1 Sun.. 2 Rain.. 4 Moon...
19	29	96	29	76	36	22	NW. 1 Sun...
20	29	78	29	76	44	32	02 WSW...W. 13 Clo... 2 Rain. 4 Moon...

The quantity of rain during the month of January was 2 inches, 29-100ths.

*Observations on Diseases at Richmond.*

The disorders under treatment were, Abscessio, Ascites, Asthenia, Cephalalgia, Cynanche tonsillaris, Diarrhœa, Dyspepsia, Dyspnœa, Febris catarrhalis, Febris simplex, Lateris Dolor, Menorrhagia, Obstipatio, Odontalgia, Ophthalmia, Phthisis pulmonalis, Podagra, Rheumatismus, and Scarlatina simplex.

# THE METEOROLOGICAL JOURNAL,

From the 20th of JANUARY, to the 19th of FEBRUARY, 1821,

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Mo.	Rain.	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.			
20			48	50	40	30	35	30	53	62	62	WSW	W	Fine	Clo.	
21			38	42	39	30	63	29	65	60	60	W	SW	Fog	Fine	Clo.
22			40	42	38	30	62	30	62	60	60	W	WNW	Clo.		
23			40	41	38	30	72	30	73	60	60	NE	NE	Clo.	Fine	Clo.
24			39	41	33	30	67	30	61	59	61	NE	N	Fog	Clo.	Fine
25			38	42	38	30	59	30	57	62	63	NNE	SE	Fog	Clo.	
26	☾		39	41	38	30	37	30	50	62	60	NE	ENE	Clo.		
27		.03	38	40	36	30	40	30	32	60	63	ESE	SE	Fog	Clo.	Rain
28		.05	37	39	33	30	25	30	27	61	60	S	SSW	Rain	Clo.	Fine
29			36	38	38	30	21	30	25	59	62	SSE	SSW	Fine	Fine	Clo.
30			45	48	42	30	30	30	30	63	65	SSW	SW	Clo.	Fine	
31			46	49	45	30	37	30	40	64	64	SW	WSW	Rain		
1			49	50	45	30	39	30	25	63	63	SW	W	Clo.	Fine	
2			47	50	37	30	20	30	27	63	60	WSW	SW	Clo.	Sho.	Fine
3	☾		41	45	35	30	32	30	17	58	58	WSW	WSW	Fine		
4			38	42	32	30	21	30	33	57	58	WNW	NNE	Clo.		Fine
5			33	38	34	30	61	30	76	57	55	N	SW	Fine		
6			35	41	32	30	76	30	71	54	53	SW	SW	Clo.	Fine	
7			35	43	34	30	70	30	68	54	56	SW	SW	Fine		
8			38	45	33	30	58	30	42	56	55	SSW	SE	Fine		
9			34	42	36	30	22	30	10	54	57	SE	NE	Fog	Fine	
10	☾		40	45	35	30	25	30	46	60	60	NE	ESE	Clo.	Fine	
11			37	42	34	30	34	30	25	57	57	E	E	Clo.		
12			34	38	34	30	24	30	31	58	58	NE	NE	Clo.	Fine	Clo.
13			35	38	34	30	31	30	25	57	57	NE	E	Clo.	Fine	
14			35	38	34	30	23	30	31	57	57	NE	WSW	Fog		Clo.
15			34	38	31	30	36	30	50	57	57	WNW	E	Fog	Clo.	
16			33	36	31	30	51	30	42	56	57	E	SSE	Clo.		
17	☉		33	36	30	30	37	30	24	58	59	NE	NNE	Fog	Clo.	
18			34	37	30	30	18	30	26	58	58	NW	W	Fog	Clo.	
19			32	35	31	30	31	30	30	57	57	NW	WNW	Fine		

The quantity of rain fallen in January is 2 inches and 9-100ths.

## A REGISTER OF DISEASES

Between JANUARY 20th and FEBRUARY 19th, 1821.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio .....	5		Febris <i>Typhus grav.</i> .....	3	1
Abscessio .....	7		— <i>Synochus</i> .....	13	
Amaurosis .....	1		— <i>Puerpera</i> .....	2	2
Amenorrhœa .....	6		— <i>Remit. Infant.</i> .....	13	2
Anasarca .....	10	1	Fistula .....	2	
Aphtha <i>lactentium</i> .....	1		Gastritis .....	2	
Apoplexia .....	10	6	Gastrodynia .....	3	
Ascites .....	7	2	Gonorrhœa <i>pura</i> .....	7	
Asthenia .....	10	1	Hæmatemesis .....	2	
Asthma .....	46	5	Hæmoptœ .....	7	
Asphyxia .....	1		Hæmorrhœis .....	13	
Atrophia .....	4		Hemiplegia .....	2	1
Bronchitis <i>acuta</i> .....	5		Hepatitis .....	5	
— <i>chronica</i> .....	7		Hernia .....	4	
Calculus .....	1		Herpes <i>Zoster</i> .....	2	
Cancer .....	2		— <i>labialis</i> .....	2	
Carditis .....	2		— <i>præputialis</i> .....	1	
Catarrhus .....	61		Hydrocele .....	2	
Cephalalgia .....	18		Hydrocephalus .....	2	1
Cephalœa .....	8		Hydrothorax .....	4	1
Chlorosis .....	3		Hysteria .....	6	
Cholera .....	1		Icterus .....	4	
Chorea .....	1		Impetigo <i>figurata</i> .....	1	
Colica .....	10		Ischias .....	2	
— <i>Pictonum</i> .....	1		Ischuria .....	3	
Convulsio .....	1		Lepra .....	4	
Cynanche <i>Tonsillaris</i> .....	11		Leucorrhœa .....	8	
— <i>Trachealis</i> .....	1		Mania .....	7	
— <i>Parotidea</i> .....	2		Menorrhagia .....	8	
— <i>Laryngea</i> .....	1		Morbi Infantiles* .....	28	
Diarrhœa .....	32		— <i>Biliosi</i> * .....	4	
Dolores .....	3		Nephritis .....	2	
Dysecoea .....	3		Obstipatio .....	3	
Dysenteria .....	14	1	Odontalgia .....	8	
Dyspepsia .....	31		Ophthalmia .....	16	
Dyspnœa .....	3		Otalgia .....	3	
Dysphagia .....	2		Palpitatio .....	1	
Dystocia .....	1		Paralysis .....	12	2
Dysuria .....	4		Peripneumonia .....	5	
Ecthyma .....	4		Peritonitis .....	8	
Eczema .....	2		Pernio .....	3	
Enteritis .....	4	1	Pertussis .....	7	
Entrodynia .....	6		Phthisis Pulmonalis .....	24	6
Epilepsia .....	2		Plethora .....	1	
Epistaxis .....	3		Pleuritis .....	22	
Erysipelas .....	8	1	Pleurodyne .....	8	
Erythema <i>leve</i> .....	2		Pneumatosis .....	1	
Febris <i>Intermittent</i> .....	5		Pneumonia .....	14	2
— <i>caturrhæalis</i> .....	20		Podagra .....	4	
— <i>Typhus mitior</i> .....	9		Porrigo <i>larvalis</i> .....	2	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Prurigo <i>decalvans</i> .....	6		Strophulus <i>intertextus</i> ..	3	
Prolapsus .....	2		Syphilis .....	17	
Prurigo <i>mitis</i> .....	3		Tabes Mesenterica ....	1	
— <i>senilis</i> .....	2		Tetanus .....	1	
Purpura <i>hemorrhagia</i> ..	2		Tic Douloureux .....	1	
Pyrosis .....	3		Tussis Avon .....	2	
Rachitis.....	2		Vaccinia .....	12	
Rheuma <i>acutus</i> .....	23		Varicella .....	4	
— <i>chronicus</i> .....	42		Variola .....	6	
Rubeola .....	9	1	Vermes .....	12	
Scabies .....	54		Vertigo .....	10	
Scarlatina <i>simplex</i> .....	21		Urticaria <i>febrilis</i> .....	2	
— <i>anginosa</i> .....	17		Total of Cases .....	499	
Scrofula.....	5		Total of Deaths .....		17
Stricture .....	2				

\* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

### Observations on Prevailing Diseases, &c.

INFLAMMATORY affections in young children, affecting principally the pulmonary organs, and encephalic disorders in more advanced life, have been the prominent disorders of the preceding months.

We have seen ~~some~~ cases, one in particular, which seemed to be in accord with M. Deserres' assumptions respecting meningeal apoplexy, being that kind of disorder which is not attended or followed by paralysis.

The following account we have received from the gentleman who favours us with the report formerly communicated by our late respected friend, Mr. Uppom:—

"I am sorry it is not in my power to give you a correct account of the morbid appearances in the cases of apoplexy recorded fatal in my last report. I declined being present at the examination of the body of Mr. Uppom; but learned from Mr. Bolton, of Coram Street, that the dura mater was much thickened, and in a state approaching to ossification; that coagulated blood, to the amount of between three and four ounces, was found in the cerebellum, about the pons varolii; the liver much diseased; the lungs gorged with blood; an umbilical hernia, containing a small portion of omentum.

"The body of the other gentleman was opened by a Physician near Brunswick Square. I was not able, from business, to attend myself; and the friend who promised to be present did not arrive in time. I learned only, that a considerable quantity of blood was extravasated in the cranium.

"Of the cases in the Workhouse, one was ascertained by dissection to be apoplexy, and the other died with symptoms that left no reason to doubt."

Quarterly Report of Prices of SUBSTANCES employed in PHARMACY.

	s.	d.
Acaciæ Gummi elect.	lb.	4 0
Acidum Citricum		28 0
— Benzoicum	unc.	4 9
— Sulphuricum	P. lb.	0 8
— Muriatricum		2 0
— Nitricum		4 0
— Aceticum	cong.	4 6
Alcohol	M. lb.	5 6
— Ether sulphuricus		12 0
— rectificatus		14 0
Aloes spicata extractum	lb.	6 8
— vulgaris extractum		6 0
Altheæ Radix exot.		1 8
Alumen		0 6
Ammoniæ Murias		2 0
— Subcarbonas		2 9
Amygdalæ dulces		2 10
Ammoniacum (Gutt.)		7 9
— (Lump.)		4 6
Anthemidis Flores		1 6
Antimonii oxydum		6 0
— sulphuretum		1 0
Antimonium Tartarizatum		8 0
Arsenici Oxydum		2 6
Asafoetidæ Gummi-resina	lb.	6 6
Aurantii Cortex		4 0
Argenti Nitras	unc.	5 8
Balsamum Peruvianum	lb.	26 0
Balsamum Tolutanum		50 0
Benzoinum elect.		8 6
Calamina præparata		0 6
Calumbæ Radix elect.		4 6
Cambogia		8 0
Camphora		6 6
Canellæ Cortex elect.		2 10
Cardamomi Semina	lb.	8 6
Cascarillæ Cortex elect.		7 0
Castoreum	unc.	2 6
Castor Russ.	oz.	24 0
Catechu Extractum	lb.	4 0
Cetaceum		3 0
Cera alba		4 0
— flava		3 0
Cinchonæ cordifoliæ Cortex (yellow)		6 9
— lancifoliæ Cortex (quilled)		10 0
— oblongifoliæ Cortex (red)		10 6
Cinnamomi Cortex		15 0
Cocculus (Coccinella)	unc.	2 6
Colocyntidis Pulpa	lb.	16 0
Copaiba		5 6
Colchici Radix (sic.)		7 6
Croci stigmata	unc.	5 0
Cupri sulphas	lb.	1 0
Cuprum ammoniatum		8 6
Cuspariæ Cortex		3 0
Confectio aromatica		8 0
— Aurantiorum		2 6
— Opil		4 6
Confectio Rosæ caninæ		1 8
— Rosæ gallicæ		2 3
— Sennæ		2 0
Emplastrum Lyttæ		6 0
— Hydrargyri		3 0
Extractum Belladonnæ	unc.	1 6
— Cinchonæ		2 6
— Cinchonæ resinosum		4 6
— Colocyntidis		3 0
— Colocyntidis comp.		1 6
— Conti		0 6
— Elaterii	30 0	
— Gentianæ		6 6
— Glycyrrhizæ	lb.	5 6
— Hematoxyli	unc.	0 6
— Humuli		0 8
— Hyoscyami	unc.	1 0
— Jalapæ	ls. 3d. Res.	3 4
— Opil		5 6
— Papaveris		10 6
— Rhei		2 3
— Sarsaparillæ		2 0
— Taraxaci		0 8

	s.	d.
Ferri subcarbonas	lb.	1 4
— sulphas		1 6
Ferrum ammoniatum		5 6
— tartarizatum		4 0
Galbani Gummi-resina.		8 0
Gentianæ Radix elect.		2 0
Guaiaci resina		6 8
Hydrargyrum purificatum		5 4
— præcipitatum album		8 0
— cum creta		4 6
Hydrargyri Oxyurias	unc.	0 6
— Suburias		0 8
— Nitrico-Oxydum		0 6
— Oxydum Cinereum		1 4
— Oxydum rubrum		5 0
— Sulphuretum nigrum		0 4
— rubrum		0 8
Hellebori nigri Radix	lb.	2 6
Ipecacuanhæ Radix		20 0
— Pulvis		1 6
Jalapæ Radix		5 0
— Pulvis		5 10
Kino		7 6
Liquor Plumbi subacetatis	P. lb.	1 3
— Ammonisæ	2 6	
— Potassæ		1 3
Linimentum Camphoræ comp.		5 0
— saponis comp.		3 6
Lichen	lb.	1 4
Lyttæ		12 6
Magnesia		10 0
Magnesia Carbonas		3 6
— Sulphas		0 6
Manna		5 4
— communis		3 10
Moschus pod. (36s.)	in gr. unc.	48 0
Mastiche	lb.	6 0
Myristicæ Nuclei		10 6
Myrrha		6 6
Olibanum		3 0
Opopanaxis gummi-resina		20 0
Opium (Turkey)		58 0
Oleum Etherium	oz.	2 0
— Amygdalarum	lb.	3 6
— Anisi	unc.	1 10
— Anthemidis		5 6
— Cassiæ		7 0
— Caryophylli		5 0
— Cajuputi		4 6
— Carui		1 6
— Juniperi Ang.		3 6
— Lavandulæ		5 0
— Lini	cong.	6 0
— Menthæ piperitæ	unc.	3 6
— Menthæ viridis Ang.		4 6
— Pimentæ	unc.	5 6
— Ricini optim.		6 0
— Rosmarini	unc.	0 9
— Succini 2s. 6d.	rect.	5 0
— Sulphuratum	P. lb.	1 4
— Terebinthinæ		1 0
— rectificatum		1 6
Olivæ Oleum	cong.	16 0
Olivæ Oleum secundum		12 0
Papaveris Capsulæ (per 100)		2 6
Plumbi subcarbonas	lb.	0 8
— Supracetas		2 0
— Oxydum semi-vitreum		0 6
Potassa Fusa	unc.	0 8
— cum Calce		0 6
Potassæ Nitras	lb.	1 2
— Acetas		10 0
— Carbonas		3 6
— Subcarbonas		1 0
— Sulphas		1 2
— Sulphuretum		4 0
— Supersulphas		0 0
— Tartas		2 9
— Supertartas		1 4
Pilulæ Hydrargyri	unc.	0 6

	s.	d.		s.	d.
Pulvis Antimonialis	0	8	Spiritus Myrtice	3	6
— Contrayervæ comp.	0	4	— Pimentæ	3	0
— Tragacanthæ comp.	0	4	— Rosmarini	4	0
Resina Flava	lb.	0 4	— Ætheris Aromaticus	6	6
Rhæi Radix (Russia)	28	0	— Nitrici	5	6
Rhæi Radix (East India) opt.	10	6	— Sulphurici	6	0
Rosæ p. tala	12	0	— Compositus	6	6
Sapo (Spanish)	2	8	— Vini rectificatus	cong.	30 0
Sarsaparillæ Radix (Lisbon)	5	4	Syrupus Papaveris	lb.	2 0
Scammonis Gummi-Resina	unc.	2 9	Sulphur Sublimatum	1	0
Scillæ Radix siccat. opt. Ang.	lb.	5 0	— Lotum	1	6
Senegæ Radix	5	6	— Præcipitatum	2	6
Sennæ Folia	6	0	Tamarindi Pulpa opt.	5	0
Serpentariæ Radix	6	0	Terebinthina Vulgaris	0	10
Simaroubæ Cortex	3	6	— Canadensis	6	0
Sodæ subboras	2	9	— Chia	10	0
— Sulphas	0	6	Tinct. Ferri muriatis	4	8
— Carbonas	5	6	Tragacantha Gummi	6	0
— Subcarbonas	1	6	Valerianæ Radix	1	4
— — — — — exsiccata	4	4	Veratri Radix	2	8
Soda tartarizata	1 or 2	0	Unguentum Hydrargyri fortius	4	6
Spongia usta	unc.	24 0	— — — Nitratris	3	6
Spiritus Ammoniac	M. lb.	4 6	— — — Nitrico-oxydi	3	0
— — — — — aromaticus	4	6	Uvæ Ursi Folia	3	6
— — — — — foetidus	5	0	Zinci Oxydum	3	6
— — — — — succinatus	5	6	— Sulphas purif.	6	6
— Cinnamomi	3	6	Zingiberis Radix opt.	3	6
— Lavandulæ	4	6			

Prices of New Phials per Gross.—8 oz. 70s.—6 oz. 58s.—4 oz. 47s.—3 oz. 43s.—2 oz. and 1½ oz. 36s.—1 oz. 30s.—half oz. 24s.

Prices of second-hand phials cleaned, and sorted.—8 oz. 46s.—6 oz. 44s.—4 oz. 33s.—3 oz. 30s.—2 oz. and all below this size, 25s.

## MONTHLY CATALOGUE OF BOOKS.

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Thomson's Conspectus. A New Edition, greatly improved. Price 5s.

## NOTICES TO CORRESPONDENTS.

Communications have been received this month from Dr. Carter, Mr. Gaitskell, Dr. Risk, (by the hands of Dr. Johnson,) Mr. Maguire, Mr. Fosbroke, and Dr. Kennedy.

We have great satisfaction in announcing the promise of Dr. Kennedy, late of Dunning, now of Glasgow, to communicate, "in the course of the summer, about twenty original cases, of which the greater part will be illustrated by dissections." The communication we have this moment received, is the first of the series, constituting "Observations in Practical Pathology."

\*\*\* Communications are requested to be addressed (post paid) to Messrs, T. and G. UNDERWOOD, 32, Fleet Street.

THE  
LONDON MEDICAL  
REPOSITORY.

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No. 88.

APRIL 1, 1821.

VOL. XV.

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PART I.

ORIGINAL COMMUNICATIONS.

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I.

*On Typhus Fever, &c. in Reply to MR. COLLINGWOOD.*  
By CHARLES SHILLITO, Surgeon, Putney.

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THE LONDON MEDICAL REPOSITORY for January contains a paper on the use of saline purgatives, and of warm injections into the uterus, in the cure of puerperal fever, peritonæal inflammation, &c. by Mr. James Wilkie Collingwood, F.R.S., P.E., &c., who has also favoured the Profession, through the same very respectable medium of communication, with his observations on the use of saline purgatives in typhus fever, during the epidemic that prevailed at Sunderland in the years 1818 and 1819\*; which disease, as it came within Mr. Collingwood's experience, was ushered in by frequent rigors, followed by accessions of heat, flushings of the face, severe pains in the head, back, and limbs, hot and dry skin, great thirst, tongue rather foul, afterwards covered with a brown fur, loss of appetite, nausea, and sometimes vomiting, &c. Mr. Collingwood's practice, when first called to a patient, was to order from an ounce to an ounce and a half of sulphate of magnesia to be taken in two doses within the hour, repeating the same purgative once, and sometimes twice a day, when severe pain in the head, and high delirium, with flushing of the face, were present—with which remedy, cold applications to the head, and, in the more severe cases, the cold affusion towards evening were

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\* Vol. XII. page 462.

also occasionally had recourse to. This treatment succeeded in about eighty cases of well marked typhus fever within twelve months, that gentleman having lost but three patients of the disease within that period.

Such was Mr. Collingwood's success, that he is enabled to come to the conclusion, "that typhus fever may be cured solely by the use of saline purgatives, answering every purpose for which blood-letting has been recommended, without being followed by its debilitating effects;" and having also tried the use of saline purgatives in puerperal and milk fevers, uterine and peritonæal inflammations, &c., he now finds that, "in addition to the general action of purgatives, they promote the discharge of a large portion of the serous fluids from the vessels of the intestines, relieve inflammation, ultimately bring about a natural state of the fæces, and also prove diuretic, diaphoretic, antiseptic, and refrigerant." I think that no Practitioner will be disposed to deny the occasional usefulness of saline purgatives in typhus fever, and the other diseases of which Mr. Collingwood treats; nor should I, unused to professional disputation, however greatly I might dissent from the propriety of trusting *solely* to them, in severe cases of disease, have ventured any observations upon his essays, or to bring my own experience of bleeding in typhus in opposition to his conclusions—had he not only become a partizan in a question of all others the most important and interesting to the general Practitioner—but as a public censor of the practice of others, on the authority of general assertion only, not hesitated to condemn such of his brethren as, profiting by the views of those eminent Physicians whose theory and treatment of fever are doing so much honour to the age, now often see in an abstraction of blood, a rational, safe, and powerful mean of arresting or modifying disease. In medical reasoning, medical facts alone are usually brought forward as the groundwork for practical inferences; but Mr. Collingwood is satisfied with loosely observing that "the indiscriminate use of venesection, as followed by some Practitioners in every case of typhus fever, points out a probable reason why it has not been attended with equal success as the simple mode of treatment," recommended by himself.—Again, "that he has been led to the publication of his essay from observing the less successful practice of those who employ blood-letting, &c. in the cure of typhus fever;" and, he further states, "that all general abstractions of blood from the system in pure puerperal fever as occurring in hospitals, or from contagion in private practice, where there is no suppression of the lochia, and the disease has existed for even twenty-four hours, *are completely signing the death warrants of the patients;*" and

it seems that his strong aversion to blood-letting, as far as typhus fever is concerned, arises from his having been led to try the early use of it in a few cases wherein it seemed to be indicated, but he always found that the disease afterwards assumed a more typhoid type; that the symptoms of debility were increased, and the patient's recovery considerably retarded; while, if not had recourse to until the complaint had been of some days' standing, "an abstraction of blood was frequently the means of converting that fever *which might have been of a mild nature*, into one of a malignant type."

This phantasmal, and, as I thought, almost exploded doctrine of debility and death-warrants, from occasional bleeding in typhus and puerperal fevers, would be perhaps unworthy of notice, as the offspring only of that common prejudice with which the Practitioner has unfortunately too often to contend—but as coming from a gentleman of respectable practice, and of professional honours, the merits of an opinion so decidedly given cannot be uselessly inquired into. Unfortunately for the modern practice in fever, Mr. Collingwood has himself something new to recommend; for, although he had seen the purgative plan of treatment in typhus extensively employed by Dr. Hamilton and other eminent men, "those of a saline nature (as far as he was aware) had never been *solely* employed in the cure of that disease."—Certainly, a great step towards establishing a new system, is to knock down an important one that may be in competition with it; and with the enthusiastic worshippers of any particular deity, we too often see now, as was the case in those less enlightened days, when the Egyptians disputed about the attributes of their crocodile, that—

"Each hates his neighbour's gods—and each believes  
The power alone divine, which he adores\*."

It has occurred to me, not only during the last six months, but at different periods of my life, to have considerable experience in typhus fever; but certainly on no one occasion more lamentably so than in the winter of 1803, when the West Essex Militia, to which I was Surgeon, having left an encampment on the 24th of November in the highest state of health, with only eleven men absent from duty, was, together with the Royal Bucks regiment, stationed in temporary barracks at Harwich, hastily run up, and at the time little more than half finished—which circumstance, together with the most severe duty of night out-lying piquets on the seashore, produced a fever of a low type, complicated in most of the cases with visceral inflammation or congest-

tion. The sick of both the regiments, and their medical officers were under the superintendence of Mr. M'Neil, an experienced Practitioner and inspector of army hospitals ; but in those days, a dark brown tongue and low delirium were considered insuperable bars to that direct unloading the vascular system which now so happily commands the attention of medical men, and several fine young men became victims to the disease—and as I have now seen an epidemic fever of a similar type in the highest degree infectious, affecting every individual of different families, successive nurses, and, in some instances, even neighbours, carried through on Dr. Armstrong's plan of abstracting blood, whenever vascular excitement or local congestion seemed to call for it, without, thus far, the loss of a single case, I cannot agree with Mr. Collingwood's conclusions on the subject.

My object, however, in recording some of the cases of typhus fever which have come within my observation, is merely to show my reasons for differing in opinion with that gentleman, when he says " that bleeding, if admissible, can be only so at the commencement of the disease"—" where the patient is young and plethoric"—and " that it both tends to weaken the patient, and to produce a more malignant type;" and, I must explain, that I had not the smallest intention of making public any of these cases, until Mr. Collingwood's late paper attracted my attention to his first communication ; and, therefore, that I am not prepared to give so full and particular a description of them as might, under other circumstances, have been expected.

On the 3d of November, 1819, I was desired to see Mr. Moody, who keeps a school in this place. He had been for several days indisposed with lassitude, rigors, extreme depression of spirits, thirst, and headach. I was told that two of his children had just recovered from typhus fever, and that his school had been broken up in consequence of the infection. Mr. Moody had been under the care of a gentleman, who, with a view of improving his strength and spirits, and keeping off putridity, had ordered him to take freely of Port wine, and had given him a medicine which Mr. M. believed to be bark ; his bowels were described as being rather confined ; his pulse was about 90, and a little full : the vessels of his eyes turgid ; the tongue was furred and rather brown, but not dry. I ordered him to discontinue his wine, and keep strictly from animal food, and prescribed for him five grains of calomel, and ten grains of jalap, and a mixture of half an ounce of sulphate of magnesia in camphor julep, of which he was to take a fourth part every six hours, and I desired him to bathe his legs in hot water upon going to bed ; and eight leeches were applied to his temples.

On the 4th I found that his bowels had been moved several times—the motions dark and offensive. He thought himself better; towards the evening, however, he became chilly, and afterwards hot and restless, and had much headach. The calomel, &c. were repeated, and one-fourth of a grain of tartar emetic given him every five hours, and he was desired to have his head sponged frequently with cold vinegar and water.

From the 4th to the 12th he seemed daily to get worse. He became delirious, his teeth covered with sordes, his skin alternately hot and dry, or he complained of being cold, and there was a little subsultus tendinum in his limbs occasionally; his bowels had now become quite open, and his motions were improved; he took but little notice unless roused; had no cough, but still could not breathe deep with perfect ease; his pulse was generally about 90 in the morning, and 110 towards the evening, or under an exacerbation of fever. In this period the leeches had been repeated, a blister had been applied to the back of the neck, another to the pit of the stomach; the medicine was also changed for the liq. amm. acet., with pills of rhubarb and antimonial powder; and he was allowed weak Port wine negus several times in the day.

On the 13th he was evidently much worse; he had been in a state of low muttering delirium, or talking incoherently, all night; the subsultus had increased; his tongue was more furred, and quite dry and brown; and he had several times passed his urine without seeming to be aware of the circumstance; his countenance was much altered, and his family were collected under an expectation that his death was fast approaching; his pulse, which was above 100, had a little hardness in the beat, and although the symptoms were generally those of great debility, the vascular system was still under some excitement. This circumstance, and seeing that he still could not breathe deep with freedom, determined me, after the best consideration I could give the case, to submit to his friends my opinion of the propriety of taking blood from his arm. This was on the ninth day of my attending him, and about the fourteenth of the attack. Upon his family replying that they wished to trust his life entirely in my hands, I took from a large orifice, and very rapidly, about six ounces of blood, when I found the artery at the wrist flutter under my finger. I got him to swallow a little wine, and no complete syncope took place. Soon after the bleeding he fell into an easy sleep for two hours, took the infusion of roses, with sulphate of magnesia and muriatic acid, and red wine negus with sago and tea. In the morning he was sensible, and took more

notice; breathed freely; and while the surface of the tongue was generally dry and brown, its external edge was of a moist and whitish cast. The blood had been put into an adjoining room at a temperature of about sixty, a part of it had not coagulated perfectly, but was in a ropy half fluid state; the remainder was covered with a buffy coat, about the thickness of a wafer, but without any firmness, and did not resist a piece of writing paper once folded. From this time Mr. Moody continued daily to improve, and on the 26th I left him quite well.

Three of Mr. Moody's pupils (the Morrisons and Skerry), and many other cases, were under my care at the same time, with typhoid symptoms, attended with more or less cough. I am not, however, able to state particulars further than that several were bled, and all did well.

Since the month of April last year, the poor of this place and Roehampton have been under my care.

On the 27th of July, the wife of — Baker, a journeyman shoemaker, who had a room in a court called Henry's Place, in this parish, was attacked with typhus fever. Soon afterwards the husband and four children were also in bed with the same disease: they were more immediately under the management of Mr. Holden, at that time living with me as a visiting assistant, and now with Mr. Ricardo, of Bow. On seeing them with him, I found the man and woman in the same bed, and the children in some blankets on the floor. The man was at the time in a state of delirium, with a dark brown tongue, and hot and dry skin. The attack with all had commenced with alternate chills and feverishness, intense pain in the head, and some cough; the secretions from the bowels dark and offensive. A Mrs. Weatherly, residing at the opposite house, had been acting as nurse, and after ten days' attendance, was similarly affected; and her daughter afterwards also took the disease. A Mrs. Edmonds living in the same court, succeeded Mrs. Weatherly as nurse. After a few days she was also taken ill with the same symptoms. Most of the cases ran on for two or three weeks, some longer: the bowels in all were freely opened at the commencement with calomel and rhubarb, or jalap, and they took occasionally, according to circumstances, sulphate of magnesia in infusion of roses, liq. amm. acet., small doses of tartarized antimony, &c.; in the latter stages, drinks acidulated with muriatic acid, &c. Baker himself had been bled early in the attack with evident advantage, but had a relapse. The nurses were both bled at the commencement of their illness—Mrs. Edmonds twice. A period of eight weeks elapsed from the first case of fever occurring in Baker's family to their being sufficiently re-

covered to be removed to St. Clement's Dane, in the workhouse of which parish I believe they now are.

On the 8th of November I saw Francis Marchant, the son of a watchman, living in Pepper Alley, in this place, who, being of very idle habits, had been for some time straying about the country in a state of great poverty, and almost nakedness, and without any regular supply of food. He had been ill in a garret for several days, with but little attention paid to him, and I found him under all the symptoms of typhus gravior in an advanced stage. He had the muriatic acid in considerable doses, and a large supply of wine daily for some time, and recovered, after being confined for six weeks. From this lad three of his sisters took the disease, and also Marchant, senior, the father. The next door neighbour, Mrs. Mariner, had the fever severely, also two of her children, Sarah, aged twelve, and William, aged four, but favourably. Four children in another adjoining house (Charles, Thomas, John, and Emma Cuff) were also attacked; and also their father, John Cuff (another watchman), aged forty-four. Marchant, junior, was not bled, and was six weeks confined in bed. Mrs. Mariner was not bled, and was five weeks ill. Marchant, senior, and Cuff, senior, were bled at the commencement of the attack, and the disease was comparatively mild. Charles Cuff, aged thirteen, having been well purged, was bled the third day, under a dry brown tongue and low delirium, with great advantage.

Several other cases of fever occurred at this time; among them, I was requested, by the mistress of our workhouse, to see, on the 6th of January, John Brice, aged twenty-five, who had been brought into the house the preceding day, under an attack of low fever, with a dry and brown tongue, &c. He had been freely purged by a dose of calomel and jalap, given him the night before by my assistant. At the time of my visiting him, he was in a state of rather active delirium, with an extremely small and very quick pulse, making 130 beats in a minute; his skin was hot and dry, and the vessels of the eyes turgid. As there was reason to think that, notwithstanding the typhoid symptoms, the membranes of the brain were in an inflamed state, I had ten ounces of blood taken from the arm—he became faint. He took one-fourth of a grain of tartar emetic every five hours, and I ordered the head to be sponged frequently with cold water, and his feet and legs to be fomented with hot vinegar. This case was of consequence, as being the only one of fever in the workhouse; and upon making him an early visit the next morning, I found that he had slept quietly for two or three hours during the night, and that he was altogether better,

although his tongue was still dry. He was confined to his bed ten days under the symptoms of typhus mitior, and on the 28th of January left the workhouse quite well.

On the day that I first visited Brice, I also saw Anne Williams, aged sixty-one, residing in Stewart's Alley, who had been taken ill the day before, with all the symptoms of the epidemic, which she attributed to her having been nursing and washing for Mrs. Mariner; one of the worst cases. She complained greatly of depression of spirits and weakness; her tongue was furred, and of a dusky hue, but not dry. She had been purged, and was taking some antimonial powder. I ordered her to lose ten ounces of blood, and to continue her medicine. The bleeding was most successful. The patient's countenance the next morning was enlivened, and she expressed to me warmly her conviction of the great relief the loss of blood had given her. The blood was, however, neither firm in its texture, nor sizzly. This case went on for a fortnight under mild symptoms, and she recovered.

After my experience of the consequences of bleeding in typhus fever, I cannot consider a furred tongue of a dark or brown hue, however dry, any objection alone to an abstraction of blood from the system; although, certainly, it can be no reason for it, because it may, and often does occur under circumstances of collapse and exhaustion.

Any intense pain of the head, delirium, or sensation of constriction upon breathing, about the region of the liver or chest, with a tightness or increased diameter of the pulse, have generally determined my proceeding, whatever may have been the state of the tongue, feeling of depression and lassitude, and other typhoid symptoms; it has, however, always been a consideration with me to act upon the circulation with as small a loss of blood as possible; with which intention it has generally been taken away as quickly as could be managed. The bleedings have varied in adults from six to twelve ounces, and never been repeated more than twice; the blood has generally shown the same character—a slight sizzly coat, of a greenish or white cast, and without firmness. When called to a case of fever among the poor in cold weather, I have always enforced their having a fire as the means of ventilation, and of keeping up an uniform temperature: all animal food and broth have been prohibited; but Port wine, varying from a tablespoonful to a pint a day, (and which the liberality of the parish officers has always left to the free agency of their medical men,) has been allowed, according to the particular state of the symptoms; and I believe an allowance of wine in farinaceous food,

or as *negus*, to be occasionally necessary, and perfectly compatible with bleeding in typhus fever as the disease advances: the one supports the stomach, and keeps up the constitutional powers generally; while the other, by causing a revulsion in the circulation, often stops disordered vascular action leading to eventual exhaustion.

Mr. Collingwood states, that "the symptoms of debility which are usually conspicuous in fever, *are but apparent*; and that, although they not unfrequently deter the Practitioner from the exhibition of even gentle laxatives, they did not prevent him from following up the frequent use of purgatives, as he always found them rather to increase the patient's strength." The refrigerant and other good properties of the saline purgatives in large doses; can, I think, only have arisen from their effects upon the coats of the intestines, in taking away so much blood by means of their secretory vessels; and it does not seem to be irrational to suppose, that a state of the system which should not only require but receive benefit and 'strength' from a constant action upon the bowels causing a discharge of watery motions for several days, would also profit by a direct and immediate abstraction of blood: indeed, the harassing operation of purgatives so continued, particularly among the poor, with whom the aid of nursing is in general lamentably deficient, would seem rather to be the greater source of debility; besides, the delay, under many of the urgent symptoms which Mr. Collingwood enumerates in his description of the epidemic, must be expected to have been in some cases treacherous and irretrievable.

And here I cannot but regret that discordance of ideas, and want of uniformity in practice among ourselves, certainly a disgrace to the class of Practitioners of which both Mr. Collingwood and myself are members; if, when cutting sharply both to the right and to the left, he is borne out by facts, and justified in telling the world that, with some of his brethren, there is an 'indiscriminate,' and, of course, a rash and injudicious use of venesection in fevers; while others (not bold and energetic in a purgative system like himself) are too timid even to venture upon an easy dose of physic!

Mr. Collingwood allows "that topical blood-letting, by leeches, &c., *when early employed*, may be useful where local inflammation is severe." I can myself fancy no period of disease, either early or late, *where local inflammation is severe*, that topical blood-letting may not be had recourse to. Several cases have occurred to me of typhus fever, where no symptoms have arisen for many days that have induced me to think general or topical bleeding necessary, when a deep-

seated pain upon the chest, or upon the region of the liver, or a greater determination of blood to the head, have determined me so to act. If Mr. Collingwood allows at all an inflammatory state in the course of fever, he must confess that it is the nature of inflammation to shift its ground—and with increasing disease only, the true state of things may become apparent. Whoever has examined persons that have died under these circumstances, must have observed different and distinct gangrenous patches, as consequences of morbid action. Even in cases of scarlatina and malignant angina, where the fever is of a similar character to typhus, and the fauces in a state of putrid slough, death may, and without doubt does often occur, when happening suddenly, less from debility, as a consequence of putrescency, than from inflammation extending down the œsophagus to the stomach, or to the windpipe. Cases of the first description I have formerly met with; and of the latter, two fatal ones came within my observation during the last autumn. On the morning of Sunday, the 27th of August, a servant arrived desiring my immediate attendance at the house of Captain P., in Montague Square. On my way, I met Captain P. himself, who acquainted me that his only son, a child of about three years of age, had returned with the family, about a week before from Scotland, and in very delicate health. He had, however, been with the other children in the garden of the square on the Tuesday preceding; after which, he had been very ill with sore throat and fever; that a Surgeon of respectability had been called in, who had requested that an Apothecary in the neighbourhood might also visit the child with him; and that they had both left town on some pressing engagement for a day or two—one of them having seen the patient the day before, at four o'clock, when it was considered to be much better.

I found this little boy breathing with the greatest difficulty, with a dusky countenance, his pulse intermitting and almost gone, from a croupy inflammation which had affected the trachea; the throat and fauces were in a general state of slough; the fetor intolerable; and there was a small cyst formed of the membrane of the epiglottis, which, upon being punctured, contained about a teaspoonful of pus. This gave some relief—an emetic gave more; but the alarming state of the child induced me to recommend that the best advice should be immediately sent for—and two eminent Physicians, and also a friend of the gentleman who had been first called in, saw him in the course of the morning. On repeating my visit in the evening, I found that he had just before died.

Of so infectious a character was this disease, which was one;

originally of cynanche maligna, that it affected all the family, including several servants, and four little girls; of whom one, eight years of age, died, after a week's illness, notwithstanding the anxious and kind attention of a very eminent Physician. In one instance only, was there any scarlet rash. In the youngest child, which was then teething, while there yet remained considerable slough in the throat, some croupy inflammation affected the windpipe; but it was, by common remedies, subdued.

About the 22d of June, Master A. J., a fine little boy, three years of age, was, together with his three sisters, attacked with a feverish cold and sore throat; but was thought not to be so ill as to require more than nursery management.

On the 26th, he was shown to two Physicians, who were visiting his father, in consultation with me, and who prescribed leeches, with calomel, &c.

On the 27th I was prevented seeing him, and a friend who visited him for me, reported that there was much fulness, and some slough in the throat; and that he had urged the use of the remedies prescribed the day before.

On the 28th, in the forenoon, I was sent for in haste to see him, and found him just out of a convulsion fit, with severe croupy breathing. He had, almost immediately, another fit, under which he died. There was some objection to my examining the state of the morbid parts; but, from the symptoms, I had no doubt of great inflammatory action and spasm in the windpipe, while the throat was in a state of putrid ulceration.

Although, as I have before stated, I have witnessed no fatal instance of typhus fever since I have followed Dr. Armstrong's plan of treating it by occasional bleedings, and have, at the present time, no case for which I have any fear; yet I am too well aware of the insufficiency of our means and best exertions on many occasions, (even under the most promising circumstances,) to suppose that success can always be depended upon. I must, however, observe, that Mr. Collingwood's practice of saline purgatives is not infallible, as he lost three cases under his favourite plan of treatment; and he seems to be hardly borne out in his logical inference, that, "*from what he has said, it will appear that typhus fever may be CURED solely by saline purgatives, and occasionally the cold affusion.*" His fatal cases were those "of diarrhoea and high delirium from the beginning of the disease;" and, considering the common causes of those urgent symptoms as arising from too great a determination of blood to the brain, biliary system, or intestines, I think that his medical neigh-

bours, while he puts himself in battle array against their practice, may fairly reply to him, that there may be occasionally other faults than those of *commission* in the practice of our art.

In a matter so much controversial, I am aware that I have already greatly intruded upon the pages of the *REPOSITORY*; I shall therefore pass by several points in Mr. Collingwood's second essay, on which that gentleman's experience and my own lead to different conclusions. I must, however, observe, that, from the sympathetic affection of the stomach under peritonæal and uterine inflammation, it has often been my misfortune to find that viscus not disposed to bear even small doses of the neutral salts, much less those large potations of the sulphate of magnesia in water, (from half an ounce to an ounce and a half,) as given by that gentleman; and I suspect that he himself may have been sometimes deceived in placing confidence in them so exhibited.

In the case he describes of Mrs. F.\*, a robust young woman was blooded to the extent of eighteen ounces, and the saline cathartic given her. The blood drawn, Mr. C. observes, "had a buffy coat, but the patient did not experience any advantage from its abstraction." On the following day he did not repeat venesection, "because the tension and swelling of the abdomen were much increased." The bowels, however, were still "constipated," therefore it is evident that the saline purgative given the day before, was not retained on the stomach, or, being so retained, was not sufficient to produce that free discharge from the intestines, which is so essential in all puerperal diseases, particularly when connected with inflammation. Upon the obstruction in the bowels having been removed by a repetition of the saline purgative, with injections, &c., the patient became better, and recovered. Mr. Collingwood afterwards says, that "although, in the case of Mrs. F., venesection appeared to be indicated, it gave no relief, and her recovery was very protracted." But if Mr. Collingwood was correct in believing this to have been a case of peritonæal and uterine inflammation, with tension of the abdomen and constipated bowels, with a quick and full pulse, and buffy blood, it seems difficult to believe that a free bleeding was not of some advantage as to the ultimate result.

Mr. Collingwood has experienced great success from the use of warm injections into the uterus in various cases of uterine inflammation, &c. which have been exhibited "by means of a syringe *especially constructed* for that purpose."

What the particular construction of the instrument is, which allows of that viscus being repeatedly injected, under the tenderness that usually accompanies its inflammatory state, without producing great pain and mischief from mechanical irritation, that gentleman does not explain. The injections were composed of "warm water, milk, oil, &c. at the temperature of from eighty to ninety degrees." Perhaps there is no one circumstance connected with the animal economy more remarkable, than the uniform temperature of the blood, and the internal cavities of the body, which, we are taught to believe, even in the extremes of heat and cold — under a tropical sun, or the chilling aspect of an arctic winter, never descends below ninety-four or ninety-five degrees; and this in a state of health. Under the particular diseases in which Mr. Collingwood injected the uterus, (milk and puerperal fevers, uterine inflammation, &c.) the animal temperature must have been increased, according to what is commonly observed in these cases, to at least from one hundred to one hundred and eight degrees or more; therefore I cannot understand how the injections so used, that is from fifteen to twenty degrees lower, and, of course, *colder* (as 'warm' and 'cold' are but relative terms, according to the difference of temperature in any bodies brought into contact,) than the cavity into which they were introduced can possibly "*have acted upon the general principles of the warm bath,*" and "*tended to relax the muscular fibre,*" &c. I am desirous of giving Mr. Collingwood every credit for his practical information, but still conceive that the benefit he has witnessed from the injections, has not arisen from their effect as 'warm' but as 'cold,' or at all events as cooling and evaporative applications — and if Mr. Collingwood is incorrect in his views on this head, it is so far satisfactory, that it allows of a possibility of his having also been fallible in the estimate which he formed of the comparative success of his professional friends who did not, in typhus fever, worship exclusively the gods that he adores.

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## II.

*On Hydrocyanic Acid.* By RICHARD MAGUIRE.

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As hydrocyanic acid, so strongly recommended by authorities of high respectability at home and on the continent, is likely to come into very general use as a medicine, it is an object of great importance, that an agent of such powerful and dangerous activity, should be prepared by some deter-

minate standard process, which may ensure certain uniformity in the result, and, as far as may be, safety and facility in the execution.

These objects, I believe, cannot be altogether commanded by the processes of Scheele, Vauquelin, and that said to be adopted at Apothecaries' Hall.

Scheele's process is objectionable, from the unavoidable, indefinite loss of the acid, during its liberation from the cyanuret of mercury, subsequent exposure, in *twice* pouring into the retort for *two* distillations, at two hundred and twelve temperature; the first impulses of which, causing this very volatile acid to rise rapidly in a gaseous state, *without* adequate provision for its absorption and condensation, a considerable part must either escape through the luting, as Scheele himself remarked, or risk the bursting of the vessels, to the no small hazard of the operator.

The same objections, the first excepted, equally attach to the process followed at the Hall.

Vauquelin's process is objectionable, from the difficulty of ascertaining the complete decomposition of the cyanuret, without filtering and testing a part of the mixture, rendered thick and black by the detached sulphuret of mercury; the unavoidable loss of prussic acid during that decomposition, and the subsequent exposures, by filtration, &c., however carefully managed.

Reflecting on the most likely means of obviating these objections, it occurred to me, that the desired object of transferring, in *one* operation, the whole of the prussic acid contained in a given quantity of cyanuret of mercury, decomposed by muriatic acid to a given quantity of distilled water, may be best accomplished by (a modification of Gay Lussac's process for obtaining the pure concentrated acid,) transmitting its vapour through a tube containing *only* pure carbonate of lime, thence directly into the water kept at nearly thirty-two degrees temperature.

On trial, I found my expectations fully answered in every respect.

To such as are perfectly conversant with chemical operations, the following description of the process and appropriate apparatus may appear unnecessary; but as it may assist in facilitating the due preparation of the medicine by several, too remote from its present limited sources of supply, to procure it with sufficient promptness and convenience for the increasing general demand, it will not perhaps be considered altogether superfluous.

The annexed sketch is a representation of the apparatus.

If the horizontal tube, to be nearly filled with very small

pieces of white marble, be a little bent in the centre, the small quantity of fluid condensed in it, will be prevented from approaching either extremity. A hollow bulb blown in the small tube entering the receiving bottle, will prevent any of the liquor in that bottle from being forced into the horizontal tube by pressure from diminished temperature. The foot of this small tube should reach nearly to the bottom of the receiver, and pass rather tightly through a cork, perforated in the centre, and well fitted to its mouth. This contrivance will afford a discretionary power of adding to the pressure of the high column of water formed by the long narrow shape of the receiver, and also of obviating occasional expansion from unnecessary increase of temperature, which, at no period of the process, should exceed one hundred and twenty degrees. The tubulated matrass, (a form, I think, preferable to that of a retort, as its neck may be more easily bent and made cylindrical of the desired size) and the right angled tube, may be either ground into the ends of the horizontal tube, or steadily inserted by means of perforated corks, carefully luted, and further secured by strips of moistened bladder firmly tied round.

Thus adjusted, I put six fluid ounces of distilled water into the receiver, surrounded with ice; one ounce and a half of pure crystallized cyanuret of mercury, powdered into the matrass; over it, one ounce and a half of pure colourless muriatic acid, of 1.150 sp. gr., and closed the tubulure with its glass stopper. The prussic acid began immediately to be disengaged and rise in vapour. For a few seconds the displaced atmospheric air of the vessels (which should not be of larger capacity than necessary) was suffered to escape from the receiver. It was then closed by the moveable cork, and so left for the night. The acid was found in the morning still passing over, as indicated by bubbles slowly arising from the surface of a small remaining portion of undissolved cyanuret. By the gradual application of a very moderate heat from an argand lamp, the bubbles rose more rapidly, and so continued until the complete solution of the cyanuret, when they ceased entirely. The temperature was then gradually raised to one hundred and twenty degrees, and so steadily continued until the liquor in the matrass, becoming cloudy, from precipitating bi-chloride of mercury, indicated the entire expulsion of the prussic acid, which proved to be the case, as on loosening the stopper the least smell of it could not be perceived. To expel it from the horizontal tube, it was gradually brought to one hundred and twenty temperature, by a heated iron, cautiously held underneath at due distance, and slowly moved from the matrass end to the other; the lamp still

remaining under the matrass. This accomplished, the receiver was removed, and immediately closed with its glass stopper.

During the whole process, which, from the time of placing the lamp under the matrass, did not occupy an hour and a half, no smell of prussic acid was perceptible at the junctures, at the mouth of the receiver, nor from the horizontal tube, separated immediately after from the matrass and small tube. The water had therefore absorbed and condensed *all* the acid contained in the cyanuret.

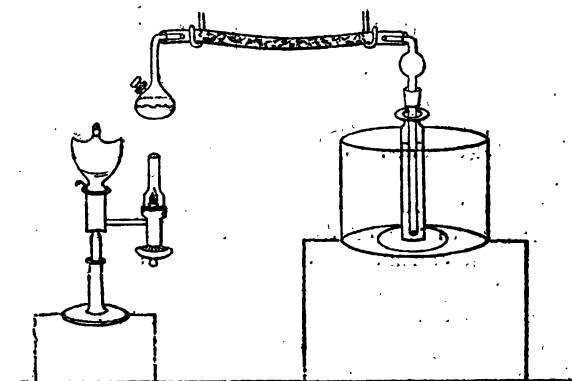
It is obvious, that in this way it may be made of any desired degree of concentration. But the necessity of appointing one invariable standard will be more evident, if the discrepance in proportionate quantity and uncertainty in strength, of the aqueous acid afforded by the three processes at present used, be considered :—

	Aqueous Acid.	Cyanuret.
Scheele's .....	2	1
Vauquelin's .....	6½	1
Apothecaries' Hall .....	5½	1

Until a standard shall be appointed, I thought it best to use the medium proportions of four from one: so made, the acid given in doses of three drops every third hour, produced all the sedative effects described by Dr. Granville, so decidedly, as to cause a temporary suspension of its use, in the only three adult cases which, as yet, have presented fit opportunities for its trial. It may, however, be advisable to determine on a lesser degree of concentration. The doses could be more accurately subdivided; it would be less dangerous, and less liable to loss of gaseous acid by exposure.

As the purity and strength of the product may essentially depend on the quality of the cyanuret, which is liable to be reduced to the state of a sub-cyanuret, by too high a degree of temperature incautiously or accidentally applied in the preparation, none should be used for this purpose that is not in white crystals, which will not be thus afforded in the first instance; and from this cause may possibly arise the yellow colour of the acid prepared at the Hall. Much of the trouble and loss of time attending the necessary purification of this salt, by repeated solution and crystallization, as directed in the Paris Codex Medicamentarius, may be saved, and pure crystals obtained, by proceeding in the following manner: evaporate the filtered liquors to a pellicle, by the heat of a vapour bath; after which, continue the evaporation at a reduced temperature, with constant stirring, until a proportionably small quantity of deep yellow mother water remain, which is to be drained off. The purer salt, requiring

more than eight waters, at fifty-five degrees, for solution, is to be freed from the remaining more soluble colouring matter by washing with successive small portions of distilled cold water. One solution and careful crystallization will then afford it pure. The washings may be put by for a future preparation.



### III.

On Colchicum Seeds. By JOHN EDWARD GRAY.

DR. WILLIAM WILLIAMS, of Ipswich, has introduced to our notice, with very great praise, the use of colchicum seeds in chronic rheumatism; and they indeed appear more certain in their effects, in the two cases that I have tried them, than the root. But as there has been a greater call for them than the herb shops had expected, or than they could readily procure, several other seeds have been sold for them, and by that means a fair trial of them has not been given. Therefore I have sent a description of the seeds, as Dr. Williams has only figured the capsule, and that when it was not ripe.

#### *Semina Colchici Autumnalis.*

*Seeds*, ovate, globose, about one-eighth of an inch in diameter.

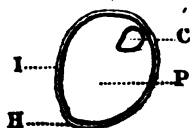
*Integuments*, simple, soft, spongy, membranaceous, thin, dull reddish brown, closely adherent to the perisperm.

*Perisperm*, or *albumen*, hard, rather cartilaginous, pellucid, pale, not in the least divided, of the same shape as the seed.

*Corculum*, or *embryo*, very small, ovate, globose, not in the least divided, whitish, placed nearly opposite to the *hylum*, or that part where the seed is affixed to the parent plant, but

out of the axis of the seed. Base pointing to the hylum, slender. Apex very obtuse.

The following is a transverse section of the seed from the hylum to where the corculum grows out — much enlarged :—



I. the integuments. P. perisperm. H. hylum. C. corculum.

The capsules should be gathered just before they are ripe, and then dried in the shade; and it would be better to keep the seeds in the capsule till they are used, in the same manner as is usual with *cardamomi minores*.

I have seen a flat seed sold for them, which appears to belong to a plant of the family *liliacea*. The seeds are very like several of the plants belonging to the family *asphodelæ*, as the *hyacinthus nutans*, the common hare bell, &c.; but the integuments of all these are crustaceous, brittle, shining black; and in the family *smilacæ*, it is thin, membranaceous, and they are enclosed in a berry.

#### IV.

*Case of Luxated Cervical Vertebra.* By W. GAITSKELL,  
Surgeon, Rotherhithe.

Mrs. C., aged sixty, having ascended some steep stairs in the dark, attempted to force the door of a bed-room, where her husband had retired to rest. By some accident she lost her balance, fell backward, and dislocated the seventh vertebra of her neck. Being near to my residence, Mr. Forman, my assistant, accompanied me to the house, where I found the poor woman lying on her back, paralysed below the margin of her chest, while a tingling sensation was felt in the arms, more particularly painful in the extremities of her fingers; at the same time the muscles of both arms were partially palsied. On examining the part that was injured, which was very difficult, from the severity of pain she experienced, and loss of voluntary power, I discovered a deep hollow where the seventh cervical vertebra is situated, which induced me to consider it dislocated; to remedy which, I extended the neck, and attempted reduction, but without a beneficial result;

therefore I gave as my opinion, that the case would prove fatal, which, in fifty hours, was too certainly verified.

She was freely bled, both from the arm and with leeches, attempted to be purged, but without effect, while her urine was drawn off with a catheter. The insensibility to stimuli was so complete, that nothing applied to the skin produced the smallest sensation; but above the diaphragm the effect was not so distinguishable, as she breathed freely, and the heart beat seventy in a minute, while the œsophagus performed its office, though imperfectly. Her speech was injured at the onset, which hourly grew worse; so that in thirty hours she lost the power of articulation, became insensible, and gradually expired.

The day the body was to be inspected, being engaged in midwifery, I appointed my assistants, Mr. Forman and Mr. Parks, (two young gentlemen zealous in professional pursuits, and whose testimony I can fully rely on,) to examine the body, when they found what I at first suspected, that the seventh cervical vertebra was displaced without fracture, while the muscular fibres, posterior to the injury, were very much lacerated, and the ligaments completely torn through, with considerable effusion of blood. This explains the paralysis, and consequent death of the patient.

## V.

*Case of Severe Neuralgic Affection.* By JOHN ERSKINE  
Risk, M.D., of Plymouth.

" R——D H——NS, Esq. Captain in the Royal Navy, ætat. fifty-three, of middle stature, has been, for several years past, labouring under hemiplegia, which made its appearance in 1811, first in the great toe of the left foot, progressively advancing upwards, until the whole of that side (the head excepted) became affected. The spine has been carefully examined, but no disease or anatomical derangement could be discovered; the bowels were generally torpid, and often obstinately constipated long prior to, and ever since the commencement of the paralytic affection. He continued in the active duties of his profession (and even made a voyage to America and the West Indies) until 1813, when he came on shore, and, in conformity to medical advice, his head was shaved, and a considerable quantity of blood taken from the temples, which, he says, produced no evident good. He then tried the effects of electricity at Plymouth—and of friction at Oxford; but derived no real advantage from either.

" In 1814 he consulted Mr. Abernethy, by letter, who, in

reply, recommended that due attention should be paid to the state of the digestive organs, adjoining an appropriate prescription, &c. In the prosecution of this plan Captain H. says that he experienced considerable advantage; but hearing that some *paralytic* cases had been *successfully* treated by the *steam bath*, he put himself under the care of a medical gentleman in the summer of 1815, and for six weeks underwent the *steaming process*. October he returned to his friends at Saltash, and immediately after his arrival, the head, for the *first time*, became affected.

" November 11, 1815, he applied to Dr. Risk. The following were the symptoms under which he found him labouring: the extremities of the left side paralytic, the muscles were considerably wasted, and the flexors of the fingers morbidly contracted, locomotion weak, and very imperfect. He complained of most excruciating pain in the left side of the head, darting in paroxysms through the orbit globe of the eye and inferior part of the os frontis to the brain. The paroxysms were frequent in their periods of attack, but did not continue longer than a quarter or half a minute; during which, the blood vessels of that side of the head and neck became turgid, and the integuments appeared like scarlet; the whole body was thrown into the most violent agitation; and the patient, although an officer of undaunted firmness, constrained to cry out in the utmost agony. The pulse at the wrists suffered no material change from the state of health, generally 72, and regular. The digestion in a very deranged state; bowels obstinately costive, and the discharges, when obtained, fetid, and almost black. The pupils acutely sensible to the stimulus of light.

" The symptoms here delineated, at once pointed out the mode of treatment. After much trouble the alimentary canal was cleaned of its morbid contents, which, with general and topical blood-letting, contributed in restoring the balance of the circulation, whilst strict attention to the biliary secretion, produced a more healthy action in the digestive organs. The cerebral paroxysms ceased, and for a short time he enjoyed his usual state of health, taking occasionally pills, composed of ext. colocynth. com. hydrarg. submur. pulv. antimon., observing also a strict antiphlogistic regimen. (I take this opportunity of remarking, that he was heretofore a pretty free liver.) As the winter advanced, the cerebral affection was again excited into action. Depletion I again had recourse to, cupping, leeches, shaving and blistering the head, a seton in the neck, pediluvium, with unremitted attention to the hepatic system and digestive organs. By the arrival of the summer months, he was so much recovered as to

lay aside all medicines, &c., except the occasional use of his alterative pills. He drove about the country in his gig, and even visited places of amusement. But, alas! as the winter came on, the same series of symptoms again presented themselves; and a similar mode of treatment carried him through the winter of 1817. He had not, however, so good a summer as the preceding one; there were frequent returns of cerebral affection and hepatic derangement. The winter of 1818 commenced with every symptom of approaching dissolution; he sunk to the lowest ebb of debility and emaciation; the spasms for a time ceased to harass him. During this reprieve from pain, he regained strength and flesh; but with the return of these, returned also his old enemy, the spasms, darting through the head with increased violence; nor have they, since that period up to the present moment, left him twelve hours at any one time. The pain now appears to originate in and extend along the *first branch of the fifth pair of nerves*. For these last two years, venesection, leeches, and cupping, have been entirely relinquished; whilst attention has been principally directed to the hepatic system, and digestive organs; opium, hyoscyamus, belladonna, camphor, colchicum, &c. have all been administered in succession, without any evident good effect. Small and repeated doses of hydrag. submur., combined with some laxative, together with the occasional application of blisters, and frequent pediluvium, have been the most successful means since the abstraction of blood was relinquished. Although the spasms still continue with equal violence, yet the face does not now become flushed during the paroxysms, as in the first instance, but remains pale and sallow. His appetite is pretty good; the paralytic affection has suffered no alteration whatever, and the mental faculties have continued throughout unimpaired. He has had three attacks of gout in the left foot within the last twelve months, without, however, producing any alleviation of the cerebral affection. The gout is not hereditary. A division of the super-orbital portion of the first branch of the fifth pair of nerves was proposed, but would not be submitted to."

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## VI.

DR. W. PHILIP'S *Reply to* DR. SCUDAMORE'S *Observations in the last Number of the MEDICAL REPOSITORY.*

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As Dr. Scudamore concedes both the points in discussion between us, allowing that both the water of the Holywell and that of St. Anne's contain iron, and that these waters are

different; this reply would have been unnecessary, were not some of his observations likely to produce what appears to me an erroneous impression respecting the medicinal effects of the Malvern waters.

As I formerly felt myself called upon to ascribe to Dr. Scudamore a degree of precipitancy in his inferences respecting the Malvern waters, I feel great pleasure in publicly acknowledging the fair and open manner in which he has met the question, by putting into the hands of such a Chemist as Mr. Children portions of both the waters, and laying the results obtained by that gentleman before the public in his own words.

The questions put to Mr. Children relating only to the nature, not to the quantity of the contents of the Malvern waters, his attention, as he observes, was not particularly directed to the latter. Had this been the case, he would have preferred operating on the waters as soon as possible after they were taken from the wells, and probably upon larger quantities of them; nor would he have neglected that part of the precipitate which adheres to the retort after it is washed with distilled water, which, of course, will bear the greater proportion to the whole of the contents, the smaller the quantity of these contents, and the more slowly the evaporation is performed. In my experiments I found it bore a very considerable proportion to the whole.

The reader will find, from the fortieth experiment related in my analysis, that when I had kept the water only for a fortnight, the quantity of iron it contained was too small to be appreciated. That subjected to Mr. Children's experiments had been kept six weeks. Mr. Children washed the bottles which had contained the water, with hot dilute hydrochloric acid, which was then also found to contain iron.

With regard to the whole quantity of the contents of the waters, from the different method pursued by Mr. Children and myself, he not having it in view to ascertain the quantity of any of the ingredients, the result of our experiments cannot be compared. From the precautions I employed, I do not see how it was possible for me to be greatly deceived in this respect. I never used less than a gallon of the water. The retorts were new, never having been used for any other purpose. The distillation was performed with so low a temperature, that it occupied between four and five days, going on by night as well as day, and the residuum was collected with great care, and weighed in a balance which was sensible to the twentieth part of a grain\*.

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\* The filtering paper which I used was prepared for the purpose of chemical experiments by Mr. Accum.

According to my experiments, the contents of the Holywell water are double those of the water of St. Anne's well. The solid contents which came away from the retort, in Mr. Children's experiments, were, in the Holywell water, in the proportion of 4.57 grains in the gallon; in the water of St. Anne's well, 3.35. In neither case was the quantity of what remained in the retort and the bottles examined; and therefore these results do not apply to the whole quantity. But Mr. Children gives the specific gravity of both the waters, ascertained by a very correct instrument.

The specific gravity is a good test of the comparative quantity of contents in different waters, when, as in the Malvern waters, the contents are of a similar nature. He found that the specific gravity of the Holywell water exceeds that of distilled water exactly twice as much as the water of St. Anne's well does, the specific gravity of the former being 1000.1488; of the latter, 1000.0744. If the hundredth parts of grains are neglected, my analysis makes the contents of the Holywell water 14.6 grains, those of St. Anne's 7.3 grains, which exactly corresponds with Mr. Children's account of the specific gravity of these waters, the only part of his experiments from which the comparative quantity of their contents can be inferred; and as neither Mr. Children's skill nor the excellence of his instruments can be doubted, this coincidence may, I hope, be regarded as a proof of the care with which my analysis was conducted.

In commenting on Mr. Children's letter, Dr. Scudamore has not taken into account what Mr. Children distinctly informs him of, that, his object not being to ascertain the quantity of the contents, he had neglected that part of them which adhered to the retort, and likewise what was left in the bottles, which had contained the waters. Dr. Scudamore observes:—"I must advert to Dr. Philip's observation, 'that when the waters had been kept some time, the quantity of iron obtained was too small to be appreciated.' It happened, unfortunately, that Mr. Children's other engagements did not allow him to examine the waters till six weeks after their arrival in London; but when it is considered that the bottles containing the water 'were washed with diluted hydrochloric acid, heated in them nearly to boiling in a water bath,' I apprehend that it will not be conceived, by the most sceptical Chemist, that any precipitate of iron could, after such a process, remain behind undetected." Dr. Scudamore quite forgets that it did not remain undetected. Mr. Children detected the presence of iron in both the bottles which had contained the waters.

The smallness of the quantity of water on which Mr.

Children operated, and its having been kept till part of the iron was deposited, would have rendered it very difficult for him to have ascertained the quantity of iron in the Malvern waters, even had this been his object; but when he expressly says he had no such object, and that he deviated from the steps which would have been necessary had this been his object, it seems surprising that Dr. Scudamore should make any inference respecting the quantity of the iron, as he seems to do in the above quotation, from what Mr. Children says. I have just had occasion to observe, that when the water had been kept only for a fortnight, the whole of the iron which I could obtain from a gallon, did not amount to any appreciable quantity. It is to be recollected that only about one half of the carbonate of iron consists of this metal; so that according to my analysis, a gallon of Holywell water contains about one-fourth, and that of St. Anne's about one-sixth of a grain of iron. Now, the minute quantity of iron contained in the comparatively small portion of water on which Mr. Children operated, was, in his experiment, as appears from what is said above, divided into three portions; one came away with the water from the retort, one adhered to the retort, and a third remained in the bottles which had contained the waters; so that even on the supposition that there had been no loss, the quantity of iron in each portion must, according to my analysis, have been extremely minute.

With regard to Dr. Scudamore's method of ascertaining the quantity of iron in the Malvern waters, or in any waters in which it exists in the state of a carbonate, I must altogether object to it. Dr. Scudamore forgets that even at the moment he applies his test, the iron is in the act of separating from the water, and consequently not in the same state with respect to the test with iron intimately and permanently combined with the water; and still less is his test applicable, when it requires a long time to produce its effect, during the whole of which the iron has been separating from the water.

I equally object to his observations relating to the medicinal effects of the Malvern waters. In the first place, as it appears from the above observations, Dr. Scudamore has not proved the quantity of iron in these waters to be as small as he imagines. In the second place, if he had, I know of no means of ascertaining the smallest quantity of this metal capable of affecting the human body, particularly in the active form in which it seems to exist in mineral waters.

I have, during a residence of twenty years in the neighbourhood of Malvern, had extensive opportunities of judging of the effects of these waters, and have, in many cases, seen them produce all the heating effects of iron. Two of my

own family, who went to Malvern for the purpose of drinking them, were both obliged to discontinue the use of them wholly on this account. Of this I am therefore assured by repeated experience, that, whatever be the quantity of iron in these waters, it is capable, in many constitutions, of producing some of the injurious effects of chalybeates; and it is fair to infer from this, when in other cases we see the strength increased under their use, that some part of this effect also arises from the same ingredient.

Since I performed the analysis in question, it has been discovered that the Prussic acid contains iron; but it appears from the fortieth experiment above alluded to, as well as from no Prussian blue being formed by the action of dilute hydrochloric acid on Prussiate of potash, that this circumstance could not have influenced the results.

Dr. Scudamore overlooks that the circumstance which gave importance to his ascribing to me Dr. Wall's account of the effect of lime water on the Malvern waters, is, as he will find, if he recur to my analysis, or to the paper to which he is replying, that in my account its effects on the two waters are stated to be different.

## VII.

*Medical Sketches.* By R. SUTCLIFFE, Queen-Street.

### No. I.—On Vaccination.

HAVING been appointed a medical agent to the N. V. Establishment, from its formation to the present period, and from which I have been presented with a diploma, I feel it an imperious duty to endeavour to contribute (though in a very small degree confessedly, somewhat of that stock of information so important in the social circle.

About twenty-one years ago vaccination became the subject of general topic, and parliamentary interference; at which period I inoculated my eldest child (the eldest of 16) with the variola, having been satisfied with it from fourteen years, experience, and owing to a secret misgiving that, at the termination of a given term of time, say seven or fourteen years, the preventive influence of vaccination would cease altogether. About this period I dined with Dr. Jenner, and being placed immediately on his left hand, I had a very fair opportunity, while the experiments were quickly succeeding each other, of frankly stating my fears, and, at the same time, of confessing my ignorance. He assured me, that at Gloucester he

could produce me many cases in which the vaccine virus had been received into the habit, fifty, nay, seventy years ago; and from that period the individuals have repeatedly been exposed to small pox, and been invulnerable. This answer, as it appeared to flow from the heart, I could not call in question, and have, from that period, persisted in the use of vaccination with progressive confidence and satisfaction; and although I have seen four repeated failures, I consider the cases rescued from death by previous vaccination.

#### No. II.—*On the Prevention of Hydrophobia.*

Mr. Cline, sen., in his lectures in the years 1790, 91, and 92, was accustomed to observe, that the period from the infliction of the injury to the usual hydrophobia symptoms, for the most part, extends to six weeks; allowing the parties an opportunity for the preventive use of excision, or caustic, during that space of time.

I have used the latter in five or six cases, and hitherto with complete success; although it is probable that hydrophobia would not have resulted from the wounds in all the cases; for, as Mr. C. used to observe, the inoculating poison may be wiped off by the external clothing, prior to the insertion of the diseased tooth; or it might be washed away after real insertion, by the effusion of blood from the wounds; whence apprehended cases of prevention are falsely reported as arising from the use of Ormskirk powders, sea-bathing, &c.

I well remember Mr., now Sir Everard Home, nearly thirty years ago, showing me, at Mr. Hunter's, the ill effects of the partial use of the lunar caustic, when it had not been pushed fully up to the extent of the inflicted wounds. The consequence indeed was the death of the gentleman.

A few years ago we had a case of a girl in Bartholomew's, who had been bitten by a rabid animal extensively on the cheek; excision was not, of course, performed; but why the caustic was (I fear) neglected, I could not learn. The scene, prior to dissolution, in that case, beggars all description. Venesection was employed, but without the smallest advantage.

Now, with these truths, of which the medical world has so long been in possession, I was exceedingly surprised to read in the public papers, some time since, that "a most eminent Physician, at the west-end of the town, urged, for greater security, the alarmed patient to be bathed in the sea."

I should not have transmitted this communication but for the above statement; and I cannot help expressing my ex-

treme regret that the great luminaries in the medical horizon (in the present æra of knowledge, and augmented perfection in the healing art) should lend their sanction to the use of means so completely inert and nugatory; and suggesting to them the expediency of borrowing somewhat of the lesser lights.

### No. III.—*On Suspended Animation.*

About thirty years ago, Edward Coleman, Esq., now Professor of the Veterinary College, published a work on this important subject; and as I had frequent interviews with him about that period at the dissecting room, I partook of the spirit of that valuable work, and feel progressively assured, that his arguments are decisive and unanswerable; and have been throughout surprised that the subject has excited so little attention in the medical world.

The professor's idea is, that in cases of drowning, &c. the cause of death is owing to the surcharge of venous blood in the heart and its appendages; and during that stage of suspense, all external heat and friction are calculated to augment the difficulty; and hence arises the necessity, *first*, of expanding the chest by bellows, pressing on the trachea to avoid the entrance of air along the œsophagus. His words are, "that the final intention of the whole plan of treatment is to imitate the natural circulation;" and, furthermore, he details the plan, by first expanding the lungs, which, by pressing against the sides of the heart, will probably relieve it of its burden of dark blood, and then collapsing them by pressure, and thus patiently adhering to the precept, "whatsoever thou doest, do quickly;" all other means should be classed as subordinate and secondary.

Having resided in the vicinity of the Thames for full thirty years, I confess I think I have witnessed success accompanying the plan of friction and external heat alone; but in such cases I have always attributed the recovery to the favourable situation of the parties, and probably to the heart never having altogether ceased to pulsate; and have endeavoured to make that impression upon the minds of the humane circle of attendants who are always exceedingly prompt to render assistance under such circumstances, (to say nothing of the reward presented for these services), and I do it with this intention, namely, that necessary information, in which the life of a fellow-creature is involved, is above all price valuable; and medical agents are not always at hand upon every emergency: thus an ignorant, though active man, by the use of the bellows, might accomplish more than all scientific interference, if the latter were restricted only to friction, and the fumes of tobacco.

I had a case of success, which is worthy of a brief narration, where the party had been under water more than fifteen minutes. I was at hand, and instantly on the spot: the heart had ceased to pulsate; the pupils did not in the least contract upon the approach of a strong light; and, in short, it appeared to be nearly as hopeless a case as ever I was summoned to: however, upon the repeated application of the bellows, to imitate natural respiration, symptoms of latent existence began to dawn; and, in half an hour, I left the subject (a female of fifty) in a profound sleep, with a good pulse at the wrist.

I was engaged in a warm dispute, a few months ago, with some impertinent clerks out of a counting-house from Queenhithe, because I positively objected to the use of the lancet, inasmuch as it was calculated to lead the by-standers into a fatal error. I had indisputable proof, after waiting half an hour, continually expanding and propelling the air from the lungs, that the immortal spirit of the subject had fled; and when another practitioner, of a more accommodating character, proposed the fumes of tobacco up the rectum, I did no longer choose to sanction such a method by my presence, and withdrew.

I cannot exculpate the medical committee of the Royal Humane Society (though I have for some years been one of that active body) for lending their sanction to the deleterious fumes of tobacco so great a length of time (though now happily abandoned), in their circulars for general direction; and I repeatedly remonstrated with Dr. Hawes upon the subject: his reply to me, at least, was every thing but satisfactory, nay, I must add, very puerile.

#### No. IV.—*A Case exhibiting the beneficial Effects of Magnesia in a Calculous Complaint.*

During my attendance on a very excellent family in Old Street, I was conversing with Mrs. H., on a domestic visitation; and, on a sudden, a little boy came in, of indelicate appearance, presenting himself to view: our conversation was abruptly suspended: I suspected, by his awkward gait, that there was stone in the bladder: every reply to my inquiries confirmed me in the suspicion: he had long laboured under pain in the region of the loins; and there was frequent appearance of calculous matter, together with pain at the glans penis, pushing forward the prepuce, and occasional interruptions in the flow of urine. Having seen the operation of lithotomy, thirty-four years ago, performed so frequently at Norwich hospital, I anticipated the most gloomy

results (although, in that excellent receptacle, I never remember an instance of a fatal termination in young subjects), and having read Mr. Brande's paper to the Royal Society, on the effects of magnesia, in similar cases, recently published, I advised a trial; and, on the second day, so large a quantity of uric acid (red gravel) was expelled, and this continuing, within a few days all apprehensions of lithotomy vanished; and the subject appears to be, with the occasional use of magnesia, completely relieved from calculus. The grateful parents are always prompt in acknowledging their obligations.

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## VIII.

*Observations in Practical Pathology.* By JAMES KENNEDY, M.D., late of Dunning, now of Glasgow.

No. I. — *Case of Preternatural Labour, during which the Patient, in the course of nine Hours, took nearly three Ounces of Laudanum\*, with beneficial Effects.*

WHILE I regard it as being my duty to promulgate the history of a singular practical fact, in illustration of the propriety and benefit of meeting certain extreme cases, by the employment of extraordinary means; I am most desirous, at the same time, of impressing deeply on every mind, the positive necessity of abstaining from the adoption of such measures, except under circumstances of the most urgent nature.

*Case.*—Sunday, January 30, 1820.—At noon, of this day, I was called to assist Mrs. Horne, residing in Dunning, who, I was told, had already been upwards of fifty hours in labour of her first child. On my reaching the house, I found her under care of a midwife, whose attendance was obtained on Friday, at an early hour of the morning.

Mrs. H. is in her twentieth year; her person is low of stature, but well made, and firm. Her temperament is distinctly *nervo-sanguine*: she has been healthy through life.

On the morning of Friday, the membranes were ruptured, and the amniotic fluid, in profuse quantity, discharged.

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\* This laudanum had been recently prepared under my own inspection, from Turkish opium, of the purest kind. It contained one-third more of the active ingredient than is directed by the Pharmacopœia of the London College: my object in making it of this strength being, by an increase of quantity, to counterbalance the reduction of its quality, too often practised by traders in this, and in almost every other article of medicine, &c.

From that time, with very short intervals, her pains continued to be powerful and frequent. At the moment of my being sent for, the midwife had discovered the presentation to be preternatural; and by the next throe, the child's arm was extruded from the mother's external parts.

On examination, I was satisfied that the infant had for some time been dead. The dorsal aspect of its left shoulder presented; and the woman was suffering under a paroxysm of convulsive shivering, accompanied with suspended consciousness. Her uterine contractions were, at the same time, vigorous, and almost incessant.

Notwithstanding the fatigue of a tedious labour, this person's strength was not greatly exhausted. On recovering from the convulsive paroxysm, her respiration was natural; her arterial pulsations full, strong, and equable; the balance of her cerebral functions restored.

For the purpose of interrupting the uterine action, and thereby enabling me to turn the child, I commenced my operations at half an hour from one o'clock, P. M., by evacuating the bladder and bowels, and exhibiting one dram of liquid laudanum, with an equal quantity of the tincture of black henbane, diffused in cold water. This dose having produced no distinguishable effect, was repeated at the end of half an hour, and again, when the same interval of time had elapsed.

This was evidently a case wherein (so far as the child was concerned) the crotchet might have been employed; but the mother's escape from injury by the instrument itself, as well as by the lacerated fragments of the foetus, could scarcely be anticipated. On deliberately weighing all circumstances, therefore, my mind was prepared to make a further attempt at suspending the uterine contractions, by means of appropriate medicines, internally administered.

At four o'clock, in consequence of this resolution, and of finding the uterus altogether uninfluenced by the medicine already taken, I endeavoured to ascertain the exact state of the encephalic, pulmonary, gastric, and sanguiferous functions, with the object of making their variations my guide, in exhibiting consecutive proportions of an opiate, till its effects on the uterine, or general system, should come to be distinctly established. Laudanum, therefore, in doses of one dram each, was given at the end of every fifteen or twenty minutes, till seventeen additional draughts had been taken.

At five, venesection was practised, and fifty ounces of blood abstracted from the median vein. This operation, however, was productive of very transient advantages.

At two o'clock I began to pass my hand into the uterus, along the child's thorax and abdomen; and, without even once retiring it, continued slowly and gently, but with perseverance, to promote its introduction, till half-past eight in the morning, when, during a momentary suspension of the uterine contractions, I succeeded in seizing the infant's left foot, drew it down over the belly and chest, and completed the delivery\*.

The child, a male, exhibited every sign of having been some days dead. Many places of its person, especially the back, were livid and putrescent. The extended arm, the penis, and placenta, which was easily removed, were in the same morbid condition.

My patient, on being put to bed, felt comfortable, and inclined to sleep. Immediate measures were, therefore, commenced for counteracting the laudanum's narcotic influence. The mother was advised to take large and frequent aqueous drinks, strongly impregnated with the tartaric acid, and to receive occasional laxatives, and emollient clysters. Her attendants were also enjoined to prevent her falling asleep during the night; and at the end of every half hour, to bathe her face, arms, and chest, with cold water.

These injunctions were faithfully executed; and, seven o'clock, A.M., of the following day, my patient was nearly free from the soporiferous effects of the drug. By mid-day, a copious alvine dejection, composed of clay-coloured scybulous fæces, afforded her much relief. Acidulous drinks, castor oil, and aperient injections, with mild regimen, and fomentations of the abdomen and contiguous parts, were regularly employed on the first days of her convalescence, which was favourable and rapid. On the fourth day after delivery, she was able to walk in her bed-room: on the ninth, she resumed her ordinary engagements.

On January 1, 1821, I assisted Mrs. H. in her second parturition, which, on this occasion, was natural, and terminated in less than six hours. The mother got out of bed on the second day. Her child is well-formed and healthy.

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## DEPARTMENT OF NATURAL HISTORY, &c.

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*Calendar of Fauna, Flora, and Pomona, kept at Hartfield, near Tunbridge Wells.* By Dr. T. FORSTER. From the 15th of January to the 23d of February, 1821.

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January 15th.—The Winter Aconite (*Helleborus hyemalis*) in flower.

\* The above paragraph is carefully printed from the manuscript. — Ed.

22d.—*Tussilago alba* in flower; also *Primula verna*.

27th.—The Snowdrop (*Galanthus nivalis*) in flower. The *Hyacinthus orientalis* now flowers in the house.

February 1st.—Fair weather, producing a forwardness of the vegetable kingdom. The Snowdrops are now abundantly in flower in the gardens; but their stalks have not attained any height yet, the white flowers just emerging from the ground.

2d.—A double pink variety of the Primrose (*Primula verna*) in blow in the garden.

5th.—The Honeysuckle in leaf.

6th.—*Crocus vernus*, the Spring Crocus, in blow in the garden. The Rooks and Daws seem very numerous, and frequent the fields in immense flocks.

8th.—I noticed to-day two specimens of the Dandelion (*L. Taraxacum*) in flower; one in the marlepit field; the other in a lane on a north bank: as neither were in warm situations, I consider their flowering as instances of a very early spring.

9th.—*Bellis perennis*, the Daisy, in flower to-day.

11th.—Primroses and Polyanthes in blow. This evening (after several days of fair clear weather) there is a strong white frost on the ground, so as to appear almost like snow, and the sky has clouded over; circumstances which indicate a change of weather.

16th.—The Periwinkle in flower at Withyham.

23d.—I saw a solitary instance of the Pilewort (*Picaria verna*) in flower, near the Parsonage, on a warm bank.

[This Journal is to be continued in the neighbourhood of Tunbridge Wells.]

### On the Natural Arrangement of Vertebrate Animals.

By J. E. GRAY.

A SKETCH is now given of the arrangement of the first section of those animals which are provided with a vertebral column, inclosing the spinal marrow. This arrangement being that first sketched by Aristotle, in his History of Animals; then enlarged by Ray; and now followed by Cuvier, and the principal naturalists both of this and foreign countries.

ANIMALIA. Natural organized bodies, increasing by intussusception of juices, furnished from a central stomach, endowed with voluntary motion, and generally with locomotion, are divisible into five sub-kingdoms.

*Sub-kingdom I. Vertebrata.*

Brain and principal trunks of the nervous system, inclosed in a bony case, composed of skull and vertebra: members fixed on the sides of a bony internal skeleton: organs similar on each side, blood red: heart one, muscular: distinct organs for vision, hearing, taste, and odour, placed in the head: sexes separate; sensible, acquiring ideas, and more or less intelligent.—This is divided into five sections.

*Sect. 1.* Uterus and mammæ distinct: breathing by lungs only: heart, two ventricled; viviparous.

*Class I. BIMANES.*

Body perpendicular: thumbs separate on the upper extremities only: fingers free, five clawed: mammæ two: pectoral naked: face bald: chin prominent: lips covering the teeth: teeth, three sorts, cutting, canine, and grinders: cutting teeth perpendicular: penis free.

*Ord. 1. PRIMATES.*

*Gen. 1.* Man, *Homo*, only one species: *Homo sapiens*.

*Class II. QUADRUMANES.*

Body horizontal, hairy: thumbs separate on the fore and hind extremities: fingers free, clawed: mammæ two, pectoral naked: chin not prominent: lips small: teeth three sorts, cutting, canine, and grinders: cutting teeth projecting: penis free.

*Ord. 1. PLATYONYCHÆ.*

Claws on all the fingers and thumbs, flat, depressed: cutting teeth, four in each jaw.

*Fam. 1. PITHECIDÆ.*—Teeth, four cutting, two canine, and ten grinders in each jaw: tail none: cheek pouches none: os hyoides, liver, and cœcum, like those of man. Inhabiting the old continent. This family contains the following genera; and the species given will serve for their type.

Chimpanse, *Mimeles* Leach. *Simia troglodytes*. Linn.

Orang-otang. *Pithecus*. Cuvier. *Simia Satyrus*. Linn., Gibbon, *Laratus*, Gray. *Simia Lar*. Linn.

*Fam. 2. CERCOPITHECIDÆ.*—Teeth, four cutting, two canine, and ten grinders in each jaw; tail and cheek pouches distinct: buttocks callous: os hyoides buckler-shaped: liver many lobed: cœcum large, short, vermiform appendage none. Old continent.

*Race 1.* Last lower grinder with four tubercles.

Monkey, *Cercopithecus*. Cuv. *Simia rubra*. Gmel.

Nasique, Hanno. Gray. *Simia nasica*. Schr.

3. Duke. Daunus. Gray. *Simia nemæus*. Lin.

4. ——— Colobolus. Illiger. *Simia polycomos*. Pennant.

*Race 2.* Last lower grinder with an odd tubercle.

5. Magot, *Cynocephalus*. Desv. *Simia inuus*. Lin.

6. Macaco, Macaca. Cuv. *Simia cygnomolgus*. Lin.

7. Baboon, Paphio. Cuv. *Simia sphynx*. Lin.

8. Ape, *Simia*. Lin. *Simia mormon*. Lin.

9. Pongo. Lacep. *Pongo borneo*. Audel, t. 11. f. 5.

*Fam. 3. CALLITRICIDÆ.*—Teeth, four cutting, two canine, twelve grinders, in each jaw: tail long: cheek pouches none: buttocks hairy, not callous: nose pierced on the side: cœcum long.

*Race 1.* Tail not prehensile.

1. Ovarine, *Mycetes*. Illig. *Simia Beelzebub*. Lin.

2. Coaita, *Ateles*. Geoff. *Simia paniscus*. Lin.

3. Sagire, *Cebus*. Geoff. *Simia asella*. Lin.

4. Saimiri, *Callitrix*. Geoff. *Simia sciurea*. Lin.

*Race 2.* Tail not prehensile.

5. Saki, *Pithecia*. Derv. *Simia pithecia*. Lin.

#### Ord. 2. GAMPSTONYCHÆ.

Claws of all the fingers compressed, arched; of the thumbs, depressed.

*Fam. 1. HARPALADÆ.*—Teeth, four cutting, two canine, ten grinders, in each jaw: tail long, not prehensile, bushy: buttocks hairy, not callous: head round: face flat: nose opening on the side: cheek pouches none.

Jacco, Harpale. Illig. *Lemur jaccus*. Lin.

#### Ord. 3. HETERONYCHÆ.

Claws of the first or first and second finger of the hinder extremity hooked, compressed; of all the rest, depressed.

*Fam. 1. LEMURIDÆ.*—Nose very long: cutting teeth four above, four or six below, canine long: grinders obtusely tubercular: ears short, hid in the fur: index finger of the hinder extremity extremely long: tail mostly long. Eating fruit.

Maki, Lemur. Lin. *Lemur catta*. Lin.

Indri, Indri. Geoff. *Lemur indri*. Lin.

*Fam. 2. LORIDÆ.*—Head roundish: nose rather short: teeth two or four cutting above, four or six below: canine long: grinders acutely tubercular: ears visible: tail none or long. Eating insects.—Nocturnal.

*Race 1.* Tail none.

Loris, Loris. Geoff. *Lemur tardigradus*. Lin.

*Race 2.* Tail long.

Galago, Galago. Geoff. Lemur potta. Gmel.  
Tarsier, Tarsius. Geoff. Lemur tarsium Pallas.  
Rabienus. Gray. Lemur spectrum Pallas.

**Class III. CHEIROPTERA.**

Body horizontal, hairy: thumb separate on the upper extremities only, clawed: fingers very long, interstices filled up with a double nearly naked membrane, adhering to the body and lower extremities, forming true wings: breast bone, keeled: mammae two, pectoral, naked: teeth, three sorts, cutting, canine, and grinders: penis free: caecum none.

**Ord. 1. FRUCTIVORÆ.**

Teeth, grinders, with two longitudinal parallel ridges separated by a furrow: index finger short, of three phalanges: eyes large: ears small: legs not united together.

**Fam. 1. PTEROPIDÆ.**—Membrane of the wings extended from the sides of the body and legs: index finger with a small claw: nose simple: tongue hairy: teeth, four cutting in each jaw.

Pterope, Pteropus. Geoff. *P. edulis.* Geoff.

Roussette, Rousettus. Gray. *P. Ægyptiacus.* Geoff.

**Fam. 2. CEPHALOTIDÆ.**—Membrane of the wings attached longitudinally to the middle of the back of the body, and legs: index finger clawless: teeth, two cutting in each jaw.

Cephalote, Cephalotes. Geoff. *C. Peronii.* Geoff.

**Ord. 2. INSECTIVORÆ.**

Teeth, grinders, all acutely tubercular: index finger not clawed: eyes small: ears large: legs united by a membrane.

**Fam. 1. NOCTILIONIDÆ.**—Middle finger with two bony phalanges: the index and other fingers with only two bony phalanges.

**Race 1.** Nose simple: tail none, or adherent to the inter-femoral membrane.

Mollosses. Geoff. *Vespertilio mollossus.* Gmel.

Nyctimones. Geoff. *Vesp. acetabulosus.* Herm.

Stenodermes. Geoff.

**Race 2.** Nose warty: tail short, free.

Noctilio. Lin. *Vespertilio leporinus.* Gmel.

**Race 3.** Nose appendaged.

Vampyre, Phyllostoma, vespertilio spectrum. Lin.

**Fam. 2. VESPERTILIONIDÆ.**—Index finger with only one bony phalange; the middle and other fingers, with two each.

**Race 1.** Nose appendiced.

Megadermes. Geoff. *Vestertilio spasma.* Lin.

Leafnose, *Rhynolophus*. Geoff. *Vespertilio ferrum equinum*. Lin.

Nyctere, *Nycterus*. Geoff. *Vespertilio hispidus*. Lin.

*Rhynopoma*. Geoff. *R. microphylla*. Geoff.

*Thaphosores*. Geoff.

Race 2. Nose simple.

Bat, *Vespertilio*. Lin. *Vespertilio murinus*. Lin.

*Pecotus*. Geoff. *Vesp. auritus*. Lin.

*Barbastella*. Gray. *Vespertilio barbastellus*. Gmel.

#### Class IV. QUADRIPEDES.

Body horizontal, hairy : thumbs not separate on the hind or fore-legs : toes clawed or hoofed : mammæ rarely pectoral, naked : penis in a groove : teeth, none, or one, two, or three sorts : pelvis perfect.

Sub-class 1. UNGUICULATA.—Toes three, to five, clawed.

##### Ord. 1. PTEROPHORÆ.

Teeth, cutting, canine, and grinders : mammæ pectoral : skin of the body extended, uniting the legs and tail, so as to form a parachute : toes, five, clawed : claws curved, acute : cæcum very large.

Fam. 1. GALEOPITHECIDÆ.—Teeth, two cutting above, toothed ; six below, four middle ones cut, pectinated : canine obtusely tubercular, short, like the grinders.

*Galeopithecus*. Geoff. *Lemur volans*. Lin.

##### Ord. 2. PLANTIGRADÆ.

Teeth, cutting, canine, and grinders : mammæ four to twelve, ventral : skin not extended : toes five, clawed ; soles of the feet applied to the ground : cæcum none.

Fam. 1. ERINACIDÆ.—Teeth, grinders acutely tubercular, cutting six in each jaw, two middle ones largest ; canine very short : body spiny, forming a ball : tail very short : ears external.

1. Hedgehog, *Erinaceus*. Lin. *E. europeus*. Lin.

Fam. 2. SORICIDÆ.—Teeth, grinders acutely tubercular, cutting, acute, six or eight in each jaw, two middle very long ; canine very short : body hairy : ears external : clavicles perfect.

Shrew, *Sorex*. Lin. *S. araneus*. Lin.

Fam. 3. MYALADÆ.—Teeth, grinders, with acute tubercles, cutting six or eight in each jaw, two middle very small, next long, canine very short : body hairy : tail none, or compressed, scaly : ears none, external : eyes small.

1. Desman, *Myale*. Cuv. *Sorex moschatus*. Lin.

2. Scalops. Cuv. *Sorex aquaticus.* Lin.

3. Condylura. Illig. *Talpa cristata.* Lin.

4. Chrysochlore, Chrysochloris. Cuv. *Sorex auratus.* Lin.

*Fam. 4. TENRECIDÆ.*—Teeth, grinders, acutely tubercular; cutting, small, equal, six above, four below; canine long: body spinous: tail none.

Tenrec. Cuv. *Erinaceus caudatus.* Lin.

Eteocles. Gray. *Erinaceus subspinosus.* Cuv.

*Fam. 5. URSINIDÆ.*—Teeth, grinders, crown flattish, last obtusely tubercular; cutting six in each jaw; canine strong: body hairy, thick, strong: legs short: clavicles rarely perfect.

Bear, Ursus. Lin. *Ursus arctos.* Lin.

Raton, Procyon. Stor. *Ursus sotor.* Lin.

Badger, Meles. Stor. *Ursus meles.* Lin.

Glutton, Gulo. Stor. *Ursus gulo.* Lin.

Prochylus. Illiger. *Bradypus ursinus.* Shaw.

### Ord. 3. DIGITIGRADÆ.

Teeth, cutting, canine, and grinders: mammæ four to twelve, ventral: skin not extended: toes four or five, clawed toes only, and not the soles of the feet applied to the ground: claws hooked: clavicles rarely perfect: grinders of three sorts, tubercular, true, and false.

*Fam. 1. MUSTELLADÆ.*—Teeth, upper true, grinders, with one tubercular, grinders behind; cutting six in each jaw, second of each side of the lower jaw going into the mouth: body long, slender: feet short: claws half retractile: iris of the eye contracting circularly: ears short.

Polecat, Putorius. Cuv. *Mustella putorius.* Lin.

Martin, Mustella. Lin. *Mustella martes.* Lin.

Mouffette, Mephritis. Cuv. *Viverra mephritis.* Lin.

Otter, Lutra. Stor. *Mustella lutra.* Lin.

*Fam. 2. CANIDÆ.*—Teeth upper and lower, last true grinder, with two tubercular, grinders behind; cutting four or six in each jaw, placed in the same line: tongue soft: feet, five toes before, four behind: claws not retractile: no pouch under the anus: cæcum minute.

1. Dog, Canis. Lin. *Canis familiaris.* Lin.

2. Fox, Vulpis. Lin. *Canis vulpis.* Lin.

3. Fenec, Fennecus. Desv. *Canis cerdo.* Lin.

*Fam. 3. VIVERIDÆ.*—Teeth, upper true grinders, with two tubercular grinders behind—the lower with one, cutting six in each jaw: tongue rough, with sharp prickles: toes, four or five to each foot: claws half retractile: anus, with a pouch or gland beneath: cæcum none.

Civet, Vivera. Cuv. *Viverra civetta.* Lin.

Genet, Genetta. Cuv. *Viverra genetta*. Lin.

Mangoust, Herpestes. Illeg. *Viverra ichneumon*. Lin.

Surricata, Ryzæna. Illig. *Viverra tetradactylus*. Lin.

*Fam. 6. HYENADÆ.*—Teeth, lower, true grinders, with no tubercular grinders behind; upper, with one inside, in front; false grinders, three above, four below, conical, obtuse: tongue rough: toes four on each foot: claws not retractile: anus with a glandular pouch beneath.

Hyena. Stor, *Canis hyena*. Lin.

*Fam. 6. FELIDÆ.*—Teeth, upper true grinder, with one small tubercular grinder behind: lower with none: true grinder, upper three lobed, lower two lobed: false grinders, two in each jaw: tongue rough: toes, five before, four behind: claws entirely retractile: head short, round.

Cat. *Felis*. T. *catus*. Lin.

Lynx, Lynceus. *Felis*. Lynx. Lin.

#### Ord. 4. AMPHIBIÆ.

Teeth, cutting, canine, and grinders: mammæ, four to twelve ventral: feet very short, finlike, enveloped in the skin, scarcely serving to walk, clawed: body behind acute long: spine very moveable: cœcum small: penis with a bone. Living in the sea, or on land.

*Fam. 1. PHOCADÆ.*—Teeth, cutting, six above, four below, equal, canine pointed, strong; grinders, twenty, twenty-two, or twenty-four, all cut or conical: toes, five to all the feet.

Seal, Phoca. Lin. P. *Vitulina*. Lin.

Sea lion, Otcarus. Peron. Phoca *jubata*. Gmel.

*Fam. 2. TRICHECIDÆ.*—Teeth, cutting, two small above, none below; canine, two very long, recurved above, none below: grinders, cylindrical, short, obliquely terminated: grinders eight or ten above, eight below.

Sea cow, mourse, *Trichecus*. Lin. T. *rosmarus*. Lin.

#### Ord. 5. ROSORES.

Teeth, no canine, cutting, two large in each jaw, separated from the grinders by a wide space; grinders mostly tubercular: mammæ ventral: feet, four or five toed: toes clawed: claws not retractile: brain smooth, without circumvolutions: intestines long: cœcum large.

*Fam. 1. CASTORIDÆ.*—Clavicles perfect: tail flat, horizontal, oval, scaly: toes, five to each foot: ears short: eyes large; teeth, cutting, truncated: grinders, eight above and below, flat, transversely grooved: anus, with two glands beneath.

Beaver, Castor. Lin. C. *Fiber*. Lin.

**Fam. 2. ARVICOLIDÆ.**—Clavicles perfect: teeth, cutting, upper truncated, lower pointed conical; grinders prismatic, with a flat top, entirely composed of vertical lamina, soldered by a vertical substance.

Ondatra, Fiber. Cuv. Castor zibethicus. Lin.

Campagnols, Arvicola. Lacep. Mus amphibius. Lin.

Lemmings, Georyclus. Illig. Mus lemmus. Lin.

**Fam. 2. MYOSIDÆ.**—Clavicles perfect; teeth, cutting, upper truncated, lower pointed conical: grinders, base divided into roots: crown flat, with transverse grooves and ridges, brittle.

Spiny rat, Echimys. Geoff. Histrich chrysuros. Schreb.

Dormouse, Myoxus. Gmel. Mus glis. Lin. Cœcum, none.

**Fam. 4. DIPSIDÆ.**—Clavicles perfect: teeth, cutting, upper truncated, lower pointed conical: grinders tubercular: body long and slender: hind legs much larger than the fore: tail long and hairy: eyes large.

Gerboa, Dipsus. Gmel. Mus sagittata. Lin.

Gerbelle, Gerbellus. Desus. Mus longipes. Lin.

**Fam. 5. MURIDÆ.**—Clavicles perfect: teeth, cutting, upper truncated, lower pointed conical: grinders tubercular: body short: limbs nearly equal: tail scaly, or hairy: eyes mostly small.

**Race 1.** Cheek pouches, none.

Hydromys. Geoff. H. Leucogaster. Geoff.

Rat, Rattus. Mus rattus. Lin.

Mouse, Mus. Cuv. Mus musculus. Lin.

**Race 2.** Cheek pouches distinct.

Hamster, Cricetus. Cuv. Mus cricetus. Lin.

**Fam. 6. SPALACIDÆ.**—Clavicles perfect: teeth cutting: very large, not covered by the lips: lower, truncated, bevelled: toes, five on each foot short; claws five, flat: tail and external ear, very short, or none: eyes very small. Subterraneous.

Mole rat, Zemmi, Spalax. Geoff. Mus typlus. Lin.

Splex, Oryctere. Cuv. Mus maritimus. Lin.

**Fam. 7. HALAMYDÆ.**—Clavicles perfect: teeth, cutting, lower truncated: grinders composed of two vertical lamina, united together: head large: eyes large: tail long: body very large behind, small in front: feet, five toes before, nails very long, pointed; four behind, nails large hoof-like.

Halam, or leaping Hare, Pedestes Illig. M. Cafer. Gmel.

**Fam. 8. ARCTOMYDÆ.**—Clavicles perfect: teeth, cutting pointed; grinders five on each side above, four below, acutely tubercular: legs short: tail short: head large, flat: ears very small: legs nearly equal.

Marmotte, *Arctomys*. Gmel. *Mus alpinus*. Lin.

**Fam. 9. SCIURIDÆ.**—Clavicles perfect: teeth cutting, very much compressed, truncated: grinders tubercular; tail long, hairs two-rowed: toes four before, and five behind: head large: eyes large.

Squirrel, *Sciurus*. Lin. *S. vulgaris*. Lin.

Getulus. Ges. *Sciurus cinereus*. Lin.

Suisse, Tamais. Illig. *Sciurus striatus*. Lin.

Guerlinguet, *Guerlinguetus*, *sciurus guerlinguetus*. Lin.

Palatouche. *Pteromys*. Cuv. *Sciurus volans*. Lin.

**Fam. 10. HISTRICIDÆ.**—Clavicles none: body spinous: teeth, cutting large truncated: grinders four cylindrical, crown flat, four or five dotted: tongue rough, spiny: toes four before, five behind: ears short; cœcum large.

Porcupine, *Histrix*. Lin. *H. crustata*. Tin.

Coendore, *Coendore*. Lacep. *Histrix prehensilis*. Lin.

**Fam. 11. LEPORIDÆ.**—Clavicles none: body hairy: teeth cutting, upper double: grinders ten in each jaw, formed of a two-vertical plate, soldered together, and one simple in the upper jaw: legs, hinder rather longest: claws five before, and four behind: cœcum very large: mouth inside, and bottom of the feet covered with hair.

Hare, *Lepus*. Lin. *L. timidus*. Lin.

Lagomys. Cuv. *Lepus pusillus*. Lin.

**Fam. 12. CAVIADÆ.**—Clavicles none: teeth cutting, large, subcylindrical, truncated, simple: grinders four in each jaw, transversely composed of one or more parallel vertical plates: legs hinder rather longest: toes four before, three behind: claws very large; ears round: tail none.

Cavia, *Hydrochoenus*. Cuv. *Cavia capibara*. Lin.

Guinea pig, Cavia. Illig. *Cavia cobarga*. Lin.

**Fam. 13. AGOUTIDÆ.**—Clavicles none: teeth cutting, large, subcylindrical, truncated, simple: grinders four in each jaw: crown flat, irregularly furrowed: legs hinder rather longest: toes four or five before, three or five behind: ears round: tail short.

Agouti, *Agoutis*. Cuv. *Cavia aguti*. Lin.

Paca, *Calogenus*. F. Cuv. *Cavia paca*. Lin.

#### Ord. 6. TARDIGRADÆ.

Teeth canine, and grinders only: cutting none: tail short: mammae two pectoral: toes very longly clawed.

**Fam. 1. BRADYPIDÆ.**—Face short: teeth, grinders cylindrical; canine acute, long: toes united in the skin: claws very long, compressed: body tailless, hairy: stomach four lobed, not leafy: cœcum none: intestines short.

Sloth, *Bradypus*. Lin. *B. tridactylus*. Lin.

Unau, *Unaus*. Gray. *Bradypus didactylus*. Lin.

Ord. 7. OLIGODONTÆ.

Teeth, grinders only: no canine nor cutting: mammae ventral: toes clawed: os pubis united.

*Fam. 1. MEGATHERIADÆ.* — Face short: nose with a short trunk: teeth, grinders, cylindrical: claws compressed: body hairy.

*Megatherium*. Cuv. Oss. fossiles.

*Fam. 2. DASIPIDÆ.* — Face long, conical: teeth, grinders cylindrical, separate from one another, seven or eight in each jaw, inside without enamel: tongue smooth, slightly extensible: body covered with shelly, scaly armour: ear and tail long: cæcum none.

*Armadillo, Dasipus*. D. *tricinctus*. Lin.

*Fam. 3. ORYCTEROPIDÆ.* — Face long, conical: teeth, grinder cylindrical, solid, transverse, with a number of small longitudinal canals: tongue slightly extensible: body hairy: claws, fore flat, hinder long.

Ground-hog, *Orycteropus*. Geoff. *Myrmecophaga capensis*. Pall.

Ord. 8. EDENTULÆ.

Teeth, neither cutting, canine, nor grinders: face long: mouth small: tongue extensible: claw very strong: os pubis separate.

*Fam. MANIDÆ.* — Mouth very small: tongue very long, fili-form: body hairy or scaly: claw recurved, acute: tail long: ears short: cæcum none: stomach simple.

*Tamanoir, Myrmecophaga*. Lin. *M. jubata*. Lin.

*Tamandua, Myrmecophaga tamandua*. Cuv.

Ant-eater, *Cyclopes*, G. *Myrmecophaga didactyla*. Lin.

*Pargolen, Manis, Manis pentadactyla*. Lin.

*Subclass 2. UNGULATA.* — Toes hoofed: clavicles imperfect.

Ord. 9. PROBOSCIDIÆ.

Toes five to each foot, inbedded in the skin: hoofs, five adhering to the last phalange: stomach simple: cæcum large: mammae two, pectoral: teeth, no true canines or cutting; but two large cylindrical tusks on the upper jaw: nose, prolonged into a flexible trunk, ending in a finger-like process: skin very thick, nearly naked.

*Fam. 1. ELEPHANTIDÆ.* — Teeth, two grinders in each jaw, composed of transverse vertical lamina, enveloped in enamel, and soldered together by a cortical substance.

Elephant, *Elephas*. Lin. *E. Indicus*. Cuv.

**Fam. 2. MASTODONADÆ.**—Teeth, grinders two in each jaw, rough, tubercular: tubercles, conical, acute.

Mammouth, Mastodon. Cuv. *M. giganteum*. Cuv.

**Ord. 10. TESSERACHENÆ.**

Toes four or two to each foot, in pairs: stomach complicate, not ruminating: mammæ between the thighs: teeth, cutting, canine, and grinders: skin thick and bristly.

**Fam. 1. HIPPOPOTAMIDÆ.**—Toes four on each foot, nearly equal: hoofs small: head large, roundish: lips very large: teeth canine, two in each jaw, upper straight, lower very large, recurved.

Hippopotamus. Lin. *H. amphibius*. Lin.

**Fam. 2. SUIDÆ.**—Toes four to each foot, two middle large, two outer shorter: hoofs strong: nose conical, moveable, truncated, ending in a bone: canine teeth, two in each jaw.

Pig, hog, Sus. Lin. *Sus scrofa*. Lin.

Phacochæres. F. Cuv. *Sus Africanus*. Lin.

Pecary, Dicotyles. Cuv. *D. Sus Tagassus*. Lin.

Babiroussa, Babiroussus. *Sus Babirussa*. Lin.

**Fam. 3. ANOPLOTHERIADÆ.**—Toes, two long: teeth in each jaw, six cutting, four canine, incurved, and twenty-eight grinders, forming a continued line, without any empty space.

Anoplotherium. Cuv. *Oss. fossiles*.

**Ord. 11. TRICHENÆ.**

Toes, three to the hinder; three, rarely four to the fore feet, not forked: teeth, cutting, and grinders, sometimes canine: stomach simple, or two-lobed.

**Fam. 1. RHYNOCEROTIDÆ.**—Nose short, rounded, bones very thick, bearing a horn formed of agglutinated hair: toes three to each foot: stomach simple; intestines and cœcum large.

Rhinoceros. Lin. *R. unicornis*. Lin.

Diceros. G. *Rhinoceros bicornis*. Lin.

**Fam. 2. HYRACIDÆ.**—Nose and ears short: toes four in front, three behind: hoofs small, round, except the inner-hinder toes, which have an arched claw: teeth cutting, two above, four below: canine, two below, and two above, when young: stomach two-lobed: cœcum large.

Hyrax. Lin. *H. Capersis*. Lin.

**Fam. 3. TAPERIDÆ.**—Nose ending in a short trunk: toes three behind, three or four in front: teeth canine two, and cutting six in each jaw.

Palæotherium. Cuv. *Oss. fossiles*.

Tapir. Tapirus. Cuv. *T. Americanus*. Cuv.

Hydrochoerus. H. *Sumatrensis*.

**Ord. 12. MONOCHENÆ.**

Toes, one to each foot, large, with a small short spur on each side: mammæ two, inguinal.

*Fam. 1. EQUIDÆ.* — Teeth six, cutting, and six grinders in each jaw.

Horse, *Equus*. Lin. *E. Caballus*. Lin.

*Ord. 12. HYDROPHORÆ.*

Toes, two to each foot: stomach four-lobed, ruminating: paunch carries water in its cells: teeth, cutting, canine, and grinders in each jaw: horns none: mammæ inguinal.

*Fam. CAMELIDÆ.*

Camel, *Camelus*. Lin. *Camelus Bactrianus*. Lin.

Lama. Cuv. *Camelus Lama*. Lin.

*Ord. 13. RUMINANTES.*

Toes, two to each foot: stomach four-lobed ruminating: paunch not carrying water: teeth cutting, none in upper jaw: horns mostly in the males: mammæ inguinal.

*Fam. 1. MOSCHIDÆ.* Frontal bones not produced: canine teeth, two long in the upper jaw.

Musk deer, *Moschus*. Lin. *Moschus moschiferus*. Lin.

Guinea deer, *Memina*. G. *Moschus pygmeus*.

*Fam. 2. CERVIDÆ.* — Frontal bones in the males lengthened into two solid deciduous processes, covered with a deciduous skin: canine teeth none.

Elk, *Alces*. *Cervus Alces*. Lin.

Deer, *Cervus Elephas*. Lin.

Roe-buck, *Capreolus*. *Cervus Capreolus*. Lin.

*Fam. 4. GIRAFFIDÆ.* — Frontal bone in both sexes lengthened into two solid, conical, permanent processes, covered with a permanent, hairy skin.

Girafe, *Camelopardalis*. Lin. *C. giraffa*. Lin.

*Fam. 4. ANTILOPIDÆ.* — Frontal bones in both sexes lengthened into two solid, bony processes, without pores, or sinuses, covered with a horny substance, formed of agglutinated hairs.

Gazelle, *Dorcas*. *Antilope Dorcas*. Lin.

Cuama, *Cuama*. *Antilope Cuama*. Cuv.

Onyx, *Onyx*. *Antilope Onyx*. Lin.

Tseiran. *Antilope leucophæa*. Gmel.

Canna, *Antilope orcas*. Pallas.

Nylgau, *Antilope picta*.

Gnou, *Catablepas*. Pliny. *Antilope gnu*. Gmel.

*Fam. 5. CAPRIDÆ.* — Frontal bones in both sexes lengthened into two simple, cellular, bony processes, covered with a horny substance, formed of agglutinated hairs: cells communicating with the frontal sinuses, processes, compressed ringed, near together at the base.

Goat, Capra. *Capra Ægagrus*. Lin.

Sheep, Ovis. *Ovis Ammon*. Lin.

*Fam. 6. BOVIDÆ.*—Frontal bones in both sexes lengthened into two simple, cellular, bony processes, covered with a horny substance, formed of agglutinated hairs: cells communicating with the frontal sinuses, processes round, on the side.

Ox, Bos. *Bos Taurus*. Lin.

#### Class 5, PEDIMANES,

Thumbs separate on the hinder extremities, and not on the front: *mammæ inguinal*, covered with a pouch or fold of the skin, supported by two bones attached to the pubis: *foetus* without members when first produced: *scrotum* of the male before the penis.

##### Ord. 1. FEBÆ.

Teeth, cutting many, canine two in each jaw: penis of the male, and clitoris and vagina of the females two-forked: *clavicles* perfect.

*Fam. 1. DIDELPHIDÆ.*—Teeth, cutting eight or ten above, eight or six below small; canine two in each jaw; grinders rough, acutely tubercular: thumbs clawless.

*Race 1.* Tail prehensile: fingers distinct.

Opossum, *Didelphis*. Lin. *D. marsupialis*. Lin.

Marmose, *Marmosa*. *Didelphis marina*. Lin.

Cheironectes. Illig. *Didelphis palmata*. Gmel.

*Race 2.* Tail hairy, not prehensile: fingers distinct.

Dasyure, *Dasyurus*. Geoff. *Didelphis viverina*. Shaw.

*Race 3.* Tail hairy, not prehensile: fingers united.

Peramele, *Perameles*. Geoff. *P. nasatus*. Geoff.

*Fam. 2. PHALANGISTADÆ.*—Teeth, cutting six above, two long below; canine upper long, lower small: thumbs nailless: index and middle finger united.

Balantia. Illig. *Didelphis vulpina*. Shaw.

Petaurus. Illig. *Didelphis pygmaea*. Shaw.

Phalanger, *Phalangista*. Illig. *Didelphis Petaurus*. Shaw.

Cœsiodes. Lacep. *Didelphis orientalis*. Lin.

##### Ord. 2. BRUTÆ.

Teeth cutting, six above, two below; canine none, or only in one jaw; grinders transversely furrowed: penis, vagina, and clitoris simple: *clavicles* short.

*Fam. 1. POTORIDÆ.*—Teeth upper cutting, two middle longest; canine upper long, lower none: thumbs tubercular: index and middle finger united: tail thick.

Potoroo, *Potorus*. Desv. *Macropus minor*. Shaw.

*Fam. 2. MACROPIDÆ.*—Teeth, upper cutting, equal;

canine none: thumbs tubercular: index and middle finger united: tail thick: hind extremities very long.

Kangaroo, *Macropus*. Shaw. *M. major*. Shaw.

*Fam. 3. KOLADÆ.*—Teeth upper cutting, two middle longest; canine, lower small, upper none: tail none: legs short: toes five, distinct.

Kola. Cuv.

*Ord. 3. GLIRES.*

Teeth cutting, two long in each jaw, round, strong; canine none: ventral fold distinct.

*Fam. PHASCOLOMIDÆ.*—Teeth cutting, two long in each jaw; no small ones; canine none: tail short: legs short: feet, soles applied to the ground: toes five, distinct: thumbs nailless.

Wombat, *Phascolomys*. Geoff. *Didelphis ursina*. Shaw.

*Ord. 4. ROSORES.*

Teeth cutting, two in each jaw, compressed; canine none: mammæ two, inguinal, naked: clavicles perfect.

*Fam. 1. CHEIROMYDÆ.*—Toes, five to each foot: fingers very long, middle longest: thumb nailed, nail flat: ears long, naked: tail very long, tufted.

Aye-Aye, *cheiromys*. Cuv. *C. Madagascariensis*. Geoff.

*Class VI. CETACÆ.*

Body horizontal, fish-shaped, bald, behind acute: extremities, fore, fin-shaped, enveloped in a thick skin; hinder united, forming a horizontal fin-like tail: clavicles none: pelvis very indistinct: skin bald, glutinous: mammæ two, pectoral, or sub-anal: penis with a bone: ears none external.

*Ord. 1. HERBIVORÆ.*

Teeth, grinders, crown flat, cutting none: mammæ two, pectoral: mouth, with whiskers.

*Fam. 1. MANATIDÆ.*—Teeth, grinders, eighteen in each jaw, transversely furrowed; canine none: stomach many-lobed.

Sea cow, *Manatus*. Cuv. *Trichechus Manatus*. Lin.

*Fam. 2. DUGONGIDÆ.*—Teeth, grinders, eight above, six below, concave; canine two, straight, short, above; none below.

Dugong, *Dugongidus*. *Trichechus Dugong*. Lin.

*Ord. 2. CARNIVORÆ.*

Teeth conical or none: mammæ two, near the anus: stomach four or five-pouched; skin and lips bald, viscid, glutinous: spiracles on the head.

**Fam. 1. DELPHINIDÆ.**—Head long, proportionate to the body: teeth conical in both jaws.

Dolphin, Delphinus. Cuv. Delphinus delphis. Lin.

Porpoise, Phocena. Cuv. Delphinus Phocena. Lin.

Beluga, Delphinaster. Lacep. Delphinus. Leucaster.

Hyperdordons. Lacep. Delphinus edentus. Schr.

**Fam. 2. MONODONTIDÆ.**—Head small, slightly distinct from the body: mouth toothless: upper jaw with two projecting defences from the front—one sometimes wanting.

Narwal, Monodon. Lin. M. monaceros. Lin.

Anarnak, Anarnacus. Monodon spurius. Bon.

**Fam. 3. PHYSETERIDÆ.**—Head very large, thick, truncated in front: spiracles one; jaws lower shortest, with obtuse conical teeth; upper with holes and small, flat, horizontal teeth.

Cachalot, Physeter. Lin. P. macrocephalus. Lin.

Catodon. Physeter Catodon. Lin.

**Fam. 4. BALANADÆ.**—Head long, flat on each side: spiracles two: jaws nearly equal in length; lower broadest, toothless; upper with horny lamina.

Whale, Balæna. Lin. B. mysticetus. Lin.

Finfish, Physalus. Gesner. Balæna Physalus. Lin.

Jupiter-fish, Boops. Balæna Boops. Lin.

## PART II.

## ANALYTICAL REVIEW.

### I.

[The review of the College Transactions, intended for this month, we are obliged again to postpone.—Ed.]

*Anatomie und Bildungsgeschichte des Gehirns des Fœtus im Menschen, nebst einer Vergleichenden Darstellung des Hirnbau's in den Thieren.* VON FREDERIC TIEDEMANN, &c.  
(*The Anatomy and History of the Formation of the Brain in the Human Fœtus; with a Comparative Exposition of the Structure of this Organ in Animals.* By FREDERIC TIEDEMANN, Professor of Anatomy and Zoology in the University of Landshut, &c.) 4to. pp. 172.

No organ of the animal economy has been studied with greater attention and perseverance than the brain. By many

celebrated men, who, since the decline of the dark ages, have successively risen to illustrate and adorn our science, nothing which the spirit of human research could accomplish has been neglected, to discover its intimate structure, and develop the mystery of its functions. In later times especially, Malacarne, Soemmering, Gall, Spurzheim, and the Wenzels, treading in the steps of Willis, and Vieussens, and Vicq d'Azyr, have distinguished themselves upon this arduous and entangled path of investigation. Yet, notwithstanding the labour and talent so long employed upon this subject, the organization of the brain remains a problem; and the uses of the numerous parts of which it is composed are still utterly unknown; although their invariable constancy, and the uniformity of their figure, bespeak that they exist for particular ends. And, while numberless hypotheses have been started upon the origin, formation, and composition of the encephalon, Anatomists are yet scarcely agreed among themselves respecting those parts to which the designation of brain is properly applicable.

In the practice of exclusively directing our inquiries to the adult brain, when the organ has necessarily become exceedingly complicated in its structure, may be found the principal source of this ignorance and uncertainty; and the only efficient mean whereby this obscurity can be dissipated, is the light which may be acquired from the study of the organization of the brain in the inferior animals, and a close examination of its anatomy in the foetus.

Comparative anatomy, although long neglected and decried, begins at last to fix the attention, and acquire the consideration, in the eye of the physiologist, to which it is so justly entitled. He is, after all, constrained to acknowledge, that by this light alone can he be safely directed in exploring the mutual relations of the various organs; and that the arbitrary impulse, communicated to his ideas by the immethodical observations of his predecessors, can by this mean only be effectually regulated. But it has happened in this, as in all the other branches of physiological research, that few writers have acted upon principles, the correctness of which has been universally allowed; and that most of them, unversed in the knowledge of natural history, which should constitute an essential part of medical education, reject with disdain the inductions furnished by comparative physiology. Dr. Gall, for instance, insists strongly on the absolute necessity of examining the structure of the brain in the whole series of animals provided with it. Yet, failing to confirm the precept by example, he has described and delineated the nerves and cerebral organ of but three or four animals; nor

even are the observations which he has made upon them perfectly correct. Thus, notwithstanding the labours of Blasius, d'Arsaky, and other celebrated writers, we really possess, upon the comparative anatomy of the nervous system, simple fragments only, from which nothing conclusive can be drawn, without a danger of farther embroiling the question, and substituting new errors for old ones. For all general rules respecting any point in anatomy and physiology are necessarily defective, when not deduced from the whole of the facts and observations which may relate to it.

The origin and formation of the brain in the embryo constitute another essential object, which has been equally neglected. From the days of Harvey, it has been well known that the foetus does not originally possess the form which it is afterwards to exhibit; that, in fact, its various parts exist not perfectly in miniature, but that its organization, at first very simple, becomes gradually more complicated; and that its development, instead of taking place by the simple evolution of parts already in existence, is really effected by a successive formation of new ones. Yet the application of this general truth to the physiological history of the encephalon has never hitherto been thought of; although in the work of the Wenzels, and in those of other continental writers, we find some valuable documents on the embryo brain.

It is precisely this application which Professor Tiedemann proposes, in the work now before us, to make. His object has been to prove that the brain of the embryo is not, at every period of pregnancy, an organ so complicated as we see it in the adult; but that it at first appears under a very simple form, which becomes gradually developed, as well by the addition of new parts as by the successive increase of those originally existing. At the same time, an attempt is made to show that the laws which regulate the formation of the brain of the human embryo, and of the inferior animals, are identically the same. With this view, luminous comparisons are instituted between the state of the foetal encephalon in its different periods and degrees of development, and that of the same organ in the four classes of vertebral animals. From this parallel it results, that the stages through which the human brain successively passes in arriving at perfect development, are all exhibited in some of the individuals composing the series of animals; and that the most simple of them, such, for instance, as are remarked in the first moments of existence, are precisely those which animals, occupying the lowest degree of the scale, exhibit. In order to render more readily appreciable the progress of the formation of the organ, Dr. Tiedemann has first generally described

the peculiarities which are presented during each month of gestation, and afterwards proceeds to particular considerations upon all these parts, both as they exist in man and in the inferior animals. The work, therefore, is naturally divided into two distinct sections. The first of these it would be impracticable to analyze; for as it is purely descriptive, all the details are so closely connected with each other, that the suppression of any one passage would render the whole obscure, and scarcely intelligible. In our attempt to display a general outline of the production, we shall consequently restrict ourselves to the indication of those leading propositions which will admit of being detached from the others, without compromising the clearness and perspicuity of our analysis.

The interesting observations of Dr. Tiedemann relative to the canal of the spinal marrow first demand our attention. It has long since attracted the notice of Anatomists; some of whom have regarded it as a constant appearance; but by far the greater number of writers this assertion has been contradicted; so that to the present day it has been a matter of doubt, whether the canal in question belong essentially to the structure of the organ, or be simply a consequence of malformation. From the researches of Dr. Tiedemann, it appears that the spinal marrow represents a canal, continuous, by means of the calamus scriptorius, with the fourth ventricle, which is, properly speaking, only a dilatation of it. The borders of this canal, at first loose and floating, adhere, towards the third month; and the tube which results from this cohesion afterwards diminishes progressively in diameter, in proportion as the pia mater, which lines it, secretes new cerebral matter. In the adult, a few traces of it only remain in the superior part of the medulla. From this it is evident that the continuance of the canal after birth, of which many examples are recorded in the writings of Portal, depends simply on defective nutrition, and in nowise bespeaks the influence of any morbid cause.

The canal of the spinal marrow, as Dr. Tiedemann observes, must not be confounded with other canals, which Gall asserts that he has discovered in the medullary chord of newborn children, and even of those at a more advanced age. These canals he describes as having no communication with the fourth ventricle, but as extending along the crura cerebri, beneath the tuber annulare and the tubercula quadrigemina, to the optic thalami, and forming, in the interior of these last, an excavation of the size of an almond. The existence of such canals Dr. Tiedemann formally denies, and asserts that they are produced by forcible inflation. He has never seen them in the human foetus or adult, nor in the inferior

animals; while the canal of the spinal marrow is invariably observed; and this, although obliterated in the human subject at an adult age, remains open for life in birds, reptiles, and fishes.

It has been asserted by Dr. Gall, that the spinal marrow is composed of ganglia, or swellings of the cortical substance, the number of which is equal to that of the spinal nerves. The German professor, reasoning upon the facts which he has drawn from observation, endeavours to prove the inaccuracy of the assertion. He remarks, that if the ganglia were the first formed parts of the spinal marrow, and the latter resulted from their cohesion, we ought to see them particularly distinct in the embryo, the nervous system of which is very simple, and scarcely half developed; but, in fact, we discover nothing in the spinal marrow which can be compared to ganglia. Such arguments are irresistible: and again, the opinion of Dr. Gall respecting the ganglionic structure of the spinal marrow, implies a contradiction with a passage in which this writer says that each half of the spinal marrow should be considered as a membrane reflected on itself. If this last proposition be correct, as is incontestibly proved by observation, how are we to reconcile it with the preceding opinion?

Dr. Tiedemann at the same time attempts to prove that the grey or cortical substance is not the matrix of the nerves, as his celebrated countryman has asserted; and that it is not destined for their production. He, in fact, declares that it is formed subsequently to the white or medullary substance; and that the origins of all the nerves, as well spinal as cerebral, are apparent, ere yet there exists the slightest trace of it. Yet he agrees with Dr. Gall, that the cortical substance exists in greatest abundance in all those points of the adult spinal marrow from whence the largest nerves proceed. It is very early seen, he observes, that the spinal marrow of the fœtus presents a greater diameter, and that its canal is largest about the origin of the nerves destined to supply the thoracic and pelvic extremities. Towards the close of pregnancy, when the parietes of the chord have acquired an increase of substance from the formation of new medullary fibres, and the capacity of the canal has been diminished by the successive depositions of cortical matter—such deposition is found to be most abundant at the points above mentioned. To give additional weight to his proposition, Dr. Tiedemann traces a rapid sketch of the researches which he has made at Venice, on the spinal marrow of the torpedo, the different species of silurus, and other fishes of the Mediterranean. From these curious observations, which precisely correspond with those

of d'Arsaky, it appears that the origins of the nerves invariably present particular swellings, or ganglia of the cortical substance, when the nerves, or the organs which they supply, are strongly developed, or when peculiar organs exist, of which other fishes are destitute.

Reasoning from the highly vascular structure of the cortical substance, and from the general principle, that the energy of organs is always in direct proportion to the quantity of blood which they receive, Dr. Tiedemann concludes that the grey substance is designed to invigorate the action of parts of the brain and of the nerves—an office which, in his opinion, it fulfils by causing an increased afflux of blood to them. Dr. Gall had, indeed, attributed the same function to this substance, which he considered as an apparatus of nutrition and reinforcement; but he thought, at the same time, that it acted in augmenting the mass of white nervous fibres, by the addition of those which originate from it. If it be observed that the cranial processes of the spinal marrow are more strong and thick when they originate from cerebral organs, rich in cineritious substance—such, for instance, as the corpora striata—this opinion acquires a very high degree of probability. Dr. Tiedemann, nevertheless, has endeavoured to controvert it; but here, it would seem, his evidence is defective. He shows that the parts which have been distinguished by the name of organs of reinforcement are at first but very thin and narrow membranes, evidently originating from the cerebral processes of the spinal marrow. He adds, that when, of two parts, one produces the other, the first must necessarily be that which originally presents the largest volume. Yet must it be acknowledged that, in his observations on the cortical substance, there is not that degree of perspicuity which might be desired; and that, if not exactly involving a direct contradiction, his opinions respecting the period of its formation, display somewhat of inconsistency. In fact, he represents this substance as appearing subsequently to birth; and yet he asserts that, although the embryo-brain presents a pulpy mass of reddish colour, and uniform throughout, the blood vessels are most numerous in those points where the grey substance is afterwards to appear. What greater reason can there then be to admit in the embryo the existence of a medullary than that of a cortical one, under the respect of mere colour alone. In the second place, even admitting, with Dr. Tiedemann, that the formation of the cineritious substance really takes place subsequently to the period of birth, it by no means necessarily follows that the only use of this substance is to produce a sort of local erection by inviting an augmented flow of blood. The evident increase of

the medullary fibres which traverse it—an increase more than once noted by Dr. Tiedemann himself,—proves that Gall is not wrong in regarding it as an apparatus of supply; and that, in consequence of its profusion of blood vessels, it contributes to the increase of the medullary secretion, and to the multiplication of the fibres of the brain in those points where it is necessary that they should exist in the greatest abundance.

The continuity of the medulla oblongata and crura cerebri is now generally, but not universally admitted by anatomists. Dr. Tiedemann, however, incontrovertibly establishes it, by showing that the pons varolii is only formed about the fourth month; and that, previously to this period, nothing is interposed between the fibres of the spinal marrow, and the crura of the encephalon.

He describes, in the following manner, the distribution of the processes of the spinal marrow in the interior of the brain: each of the two chords of which it is composed divides, in the medulla oblongata, into three other smaller ones. The internal or pyramidal, situated on the side of the exterior longitudinal groove of the spinal marrow, forms, till the fourth month, a large flat surface, as in birds, reptiles, and fishes; for the pyramidal eminences are not developed till the fifth month. The decussation of it with that of the opposite side, as already described by Vesalius, Santorini, Winslow, Lientaud, Scemmering, and Gall; but denied by Haller, Vicq d'Azyr, and Monro, is here confirmed. Dr. Tiedemann has clearly described, about the fourth or fifth week, this decussation in which the other parts of the spinal marrow do not participate—a circumstance not to be lost sight of in the explanation of a number of physiological and pathological phenomena. The middle, or olivary chord, is placed above the preceding; and Dr. Gall is accused of having omitted, in the imperfect description given of it by him, the ascending fibres which this body furnishes to the tubercula quadrigemina, and which unite with those of the opposite side to form the vault of the aqueductus sylvii. These fibres become apparent, when a thin layer of the amorphous medullary substance is removed from the body which supports the tubercles. The other fibres of the chord proceed anteriorly in the optic thalami, where they unite with those of the internal chord. The corpora olivaria do not appear till towards the close of the sixth month or commencement of the seventh. Here Dr. Tiedemann again takes occasion to show that his countryman is deceived in considering these bodies as ganglia from which the chords themselves originate. Lastly, the external or cerebellar chords, (the corpora restiformia of modern anatomists,) arising from the lateral and posterior part

of the *médulla*, from the expanded *parietes* of the fourth ventricle, and afterwards penetrate into the *cerebellum*.

The internal and middle chords, uniting, dip into the optic *thalami*, or form, by expansion, these bodies. The fibres composing them are there very perceptible, if a thick pulpy stratum be scraped from their superior and internal surface. From the internal side some fibrous portions are detached, and take a direction externally towards the *mamillary eminences*. All the other fibres continue to proceed from behind anteriorly, and from within outwardly, beneath the *corpora striata*, to the hemispheres of the brain. Their radiation, or fan-like disposition, is perceived on separating the *corpora striata* from the *crura cerebri*, and turning them back. At the same time may be observed several fibres which run into these bodies. The fibres engaged in the hemisphere take a direction anteriorly, posteriorly, and laterally; afterwards rise upwards, and then turn inwards: the hemispheres of the brain are, therefore, membranes reflected upon themselves from without inwardly, and from before backward; which gives rise to the radiation of the fibres of the *crura cerebri*. Hence it is easy to comprehend why they present greater thickness externally than internally. This disproportion results from the fibres of the *crura cerebri* on the external side being very compact; while, on the internal side, they have, by expansion, lost much of their thickness. Thus also it happens, that in the *fœtus* the roof of the lateral ventricles, instead of being flat, and on a level with the *corpus callosum*, presents an arched form, and rises above this transverse septum. It afterwards descends gradually in proportion as the mass of diverging fibres acquires an increase of weight and volume. The strongest proofs that can be given of the correctness of these different assertions is, that when the brain, at the close of the second month, yet quite albuminous, does not display its organization till after a long immersion in alcohol, the hemispheres represent two real, but extremely delicate membranes produced by the expansion of the *crura cerebri*, and which are not only continued on the optic *thalami*, but are yet free in their internal and posterior borders. About the third month they may still be readily, and without any laceration, unfolded as a plain membrane. For this purpose, it is only necessary to revert them with a little precaution externally.

Yet Dr. Tiedemann, besides the radiation of the fibres in the direction just indicated, and which is the principal, admits another circumferential one: this consists of fibres formed upon the first set of arched fibres, and proceeding directly outward. He explains the formation of this second order of

fibres by observing, that the vessels of the pia mater, which are evidently destined to secrete and nourish the cerebral substance, separate from the blood the mass of which it is formed; that this, therefore, is deposited in strata from within outwardly, and chrystallizes, if the expression may be employed, under the form of fibres, which implant themselves into those previously existing.

The growth of the pia mater, and gradual opposition of new strata, cause the parietes of the hemispheres to increase in thickness. In favour of this explanation, an attentive survey of the substance of the encephalon furnishes many arguments. If the pia mater be detached from the brain, parcels of the cerebral substance remain adherent to its internal surface; because the exterior, having been last deposited, is yet attached to the vessels of the membrane. This superior stratum of the encephalon, when exposed, appears soft, and destitute of fibrous structure. The microscope shows the existence in it of numerous minute globules. On a division of the brain, one discovers the fibres whereon this thin stratum of formless pulp rests, which has not yet had time to assume a fibrous disposition. It is by this second circumferential radiation of nervous fibres that Dr. Tiedemann explains the formation of the convolutions, which scarcely show themselves till towards the seventh month. Dr. Gall has nearly said the same as to the distribution of the crura cerebri in the hemispheres across the optic thalami and corpora striata; but he differs in his theory of the convolutions; these he represents as proceeding from the folding of the membranes of which the hemispheres are originally formed. Observation and reasoning alike concur in showing the accordance of Dr. Tiedemann's opinions on this subject with nature; for the hemispheres are smooth during the whole time that their parietes present but little thickness; while, at this period, they ought, according to the received hypothesis, to be more wrinkled than at any other: nor, moreover, are the convolutions at all perceptible on their internal surface—that is, in the interior of the lateral ventricles. The method which Dr. Gall employs to show that the convolutions of the brain may be unfolded into one plain expanse of membrane, invariably produces, in our author's opinion, rupture of the interior strata of fibres, sent from without inward by the crura cerebri, and is utterly inconclusive. From this statement it is obvious that Dr. Tiedemann does not consider the convolutions to be folds adherent by one of their surfaces, as Gall has depicted them.

It follows, from this disposition, that the lateral ventricles are formed later than the canal of the spinal marrow, and the

third and fourth ventricles. In other respects, Dr. Tiedemann agrees with his celebrated countryman; for he attaches little importance to the ventricles, and regards them as, like the other cerebral cavities, the simple result of the mechanism of organization, and destined to afford to the pia mater a more extensive surface for the transmission of blood to the substance of the encephalon.

That, with some slight modifications, Dr. Tiedemann adopts the opinions of Gall, Reil, and the Wenzels, with regard to the distribution of the fibres sent off by the *crura cerebri*, has just been seen. It is not the same with the system of converging fibres for the apparatus of the commissures, which he rejects as one of the chimeras engendered in the imagination of Dr. Gall. According to the latter, the converging fibres proceed from the grey substance of the convolutions, cross those which ascend from the *crura cerebri*, and take an inward direction to give origin to the corpus callosum. This, according to Dr. Tiedemann, is incorrect; for the corpus callosum already exists in the foetus about the fourth or fifth month; a period when the brain exhibits neither convolution nor cortical substance. It is obvious, then, that the converging fibres cannot arise from parts which have no existence; and Dr. Gall would have been convinced of it by collating his descriptions with his figures, which are strikingly exact. The corpus callosum is, in fact, formed by the union of the fibres which ascend from the *crura cerebri*, and which, having acquired sufficient length, unite transversely with those of the opposite side. Hence it happens, that without existence during the first months, it afterwards gradually increases in proportion as the fibres of the hemisphere are elongated, and forms from before backward, extending posteriorly as the hemispheres reach the *tubercula quadrigemina*, and afterwards the cerebellum. Reil fell into the same error as Dr. Gall, and made a particular and distinct system of transverse fibres of the corpus callosum. This happened from his having restricted his inquiries solely to the adult brain, and not having clearly appreciated the laws which regulate its formation: yet ought he to have been aware that this was an erroneous manner of viewing the corpus callosum, since he states that he had observed, in an adult whose brain was enormously distended by a dropsy of the ventricles, that the fibrous fasciculi of the corpus callosum, and those of the *crura cerebri*, met at a straight line on the border of the arched and anterior part of the corpus striatum. Perhaps he had even imbibed a confused notion of his mistake; for, after having detailed in his *Archives* the interesting case of a healthy, but idiotic woman, aged thirty, who had been cut off

by apoplexy, and in whom the corpus callosum was found wholly deficient, he inquires whether such defect might not be the result of an obstacle to the primordial formation of the brain. This, then, nothing more than a simple conjecture, has since been established as an incontestible truth by the observations of Dr. Tiedemann.

In treating on the fornix, our author shows that Dr. Gall has mistaken its structure. This anatomist classes it among the commissures of the brain, and thinks it also formed by the converging fibres. Reil was more correct upon this subject; and the description which he has given of the fornix absolutely accords with that of Dr. Tiedemann. According to them, this portion of the brain is formed from above downward, and from before backward. Its anterior pillars result from fasciculi of fibres which shoot out from the optic thalami, make a turn, and then rise, after having descended into the mamillary eminences. Dr. Gall, if he have not correctly described this disposition, has, at least, delineated it with the utmost accuracy. The fornix, like the corpus callosum, extends horizontally backward, in proportion as the mass of the hemispheres becomes more developed.

It is thought by most anatomists, that the laminae of the septum lucidum descend from the corpus callosum to the fornix. Dr. Tiedemann shows the contrary, and proves, from the direction of their fibres, that they originate from the anterior pillars of the fornix. Thus he positively assigns to it a place among the cerebral organs; while, by Gall and Reil, it has been classed among those objects whose connexions and office are yet unknown. The cavity which intervenes between the parietes of the septum presents backward, in the foetus, a small triangular orifice, situated betwixt the anterior pillars of the fornix and the anterior commissure. This orifice establishes a communication with the third ventricle; and through it the pia mater penetrates into the cavity of the third ventricle. Dr. Tiedemann has sometimes found it open in the adult; whence it follows that the ventricle of the septum is not so absolutely destitute of connexion with the other ventricles of the brain as most anatomists contend.

Dr. Gall has committed, with regard to the anterior commissure, the same error as he had previously done respecting the corpus callosum and fornix; for he attributes its origin to his imaginary system of converging fibres. Willis had before represented it as proceeding from the corpora striata, which approaches nearer to the truth; and professor Chaussier has derived it with yet greater correctness from the crura cerebri. Dr. Tiedemann unquestionably proves that it originates from the fibres of these last-mentioned bodies after their issue

from the corpora striata. Some of these fibres proceed anteriorly, bend inwards, and unite with those of the opposite side; so that the anterior commissure, the traces of which are only perceptible about the third month, is a medium of union between the radiations of the crura cerebri, the corpora striata, and anterior lobes of both sides.

In the pineal gland and its pedunculi, Dr. Gall sees only a simple gland; but by Dr. Tiedemann it is considered as a real commissure of the two swellings of crura cerebri, or of the optic thalami, strengthened by an accumulation of grey substance.

In describing the tubercula quadrigemina, of which Reil alone had previously exhibited the structure with any thing like correctness, our author confirms the opinion of those anatomists who regard the anterior tubercles as the origin of the optic nerves; but he thinks not with Gall and Cuvier, that the posterior give rise to the olfactory; otherwise the long discussion into which he enters respecting what ought to be called tubercula quadrigemina in birds, although clear and interesting, contains nothing but what has already been said by Gall and Cuvier.

Reil has prescribed, with greater precision and perspicuity than Dr. Gall, the distribution of the fibres of the crura cerebri at their issue from the optic thalami, which seemed to him destined not only to increase them, but to augment their extension, and impart to them a circular and radiated direction. Dr. Tiedemann adds little to what is already known respecting these bodies. The crura cerebri possess more fibres on their issue than at their entrance; that is, the succession of numerous vessels which run into these ganglia, give activity to nutrition, increase the mass, and make them the principal focus of vitality, as well of the cerebral processes of the spinal marrow, as of their lateral expansions, the hemispheres. The same observations are applicable to the corpora striata, as Gall and Reil have long since shown.

The Wenzels were the first who depicted the cornu ammonis as a fold of the hemisphere formed by the crus cerebri, and united to the posterior pillar of the fornix, to form the grey corpus fimbriatum. Dr. Tiedemann sees, in the hippocampus, a mass of reinforcement of the posterior pillar; because a thick stratum of cineritious matter is deposited upon the descending fibres of this pillar.

Dr. Gall, again, makes the tuber annulare to proceed from the converging fibres. These he supposes to issue from the grey substance of the cerebellum, of which he with reason calls the pons varolii the great junction or commissure. The inaccuracy of this assertion Dr. Tiedemann attempts to prove by

the same arguments as he has employed on other occasions. The *pont varolii*, he contends, already exists at a period when there is yet no grey substance on the surface of the cerebellum. It arises from the medullary centre of the latter, and not only increases in breadth and thickness, in proportion as the corpora fimbriata and the hemispheres of the cerebellum are developed, but, on examining it in the vertebral animals, it will also be observed to increase in dimensions in the same proportion as the medullary masses which give rise to it.

The opinions of Dr. Tiedemann respecting the relations of the spinal marrow and the brain, have been reserved, in order that they may be last exposed. From the details which we have already entered into, the nature of them will be readily foreseen. By Galen, Riolanus, Fallopius, Willis, Vieussens, Winslow, Haller, and others, the spinal marrow was considered as a prolongation of the encephalon; and this opinion the greater number of anatomists adopted. Dr. Gall, on the other hand, asserted that the brain is an elongation of the spinal chord. Such view of the subject, however, is not entirely novel; for it has been obscurely hinted at by many of the Grecian writers; and Bartholine, Malpighi, and especially Fracassati, have not only embraced, but attempted to demonstrate it. All the difficulties which have been started against the doctrine of his countryman are completely done away by Dr. Tiedemann's researches, the interesting results of which may be reduced to the following principal heads:

1st. In the commencement of pregnancy, especially about the second month, the earliest period at which the brain can be rendered perceptible by the action of alcohol, this organ is very small in proportion to the spinal marrow. In fact, it results from the prolongation upward and forward, of the two principal chords, the olivary and pyramidal. All its superior part is open, or, more properly speaking, forms a broad gutter, which at once comprehends the third ventricle, the *aqueductus sylvii*, the fourth ventricle, and *calamus scriptorius*. This gutter is uninterruptedly continuous with the canal which traverses the whole length of the marrow.

2dly. The cerebellum evidently originates from the spinal marrow; from the lateral parts of which arises, on each side, a small flattened chord. These two, at first so distinct and separate that they may be readily parted without laceration, afterwards unite so as to form the roof of the fourth ventricle. Then only the brain, viewed from above, ceases to represent a gutter; and the laminae and branches of the cerebellum are formed at a much later period.

3dly. The mass which supports the *tubercula quadrigemina*

mina equally shows itself in its origin, under the form of two small thin membranes, which arise from the olivary chords of the spinal marrow, and which, when they cease to be distinct, represent a vault covering a large ventricle, whose successive contraction gives rise to the aqueductus sylvii.

4thly. The pyramidal chords of the spinal marrow, which take a direction below upward, and from behind forward, after having produced two swellings, or ganglia, the optic thalami, and corpora striata, each terminate by a lamina, which bent from before backward, and from the side towards the superior and internal part, forms the commencement of the hemisphere of the brain. These membranes and thin hemispheres are so small at the second month, that they scarcely cover the corpora striata. In proportion as they increase they extend backward, and cover, at the third month, the optic thalami; at the fourth, the tubercula quadrigemina; and, at the sixth or seventh, the cerebellum. The lateral ventricles result from their inversion.

5thly. The medullary fibres of the pyramidal chords, previously to the formation of the tuber-annulare, are immediately continuous with those of the crura cerebri; from whence the eye may readily trace them in the optic thalami, and corpora striata, and see them afterwards spreading and radiating in the hemispheres.

6thly. The parietes of the hemispheres gradually increase in thickness in proportion as new strata of cerebral substance are deposited on their surface; and convolutions are not decidedly seen till towards the close of pregnancy.

All these combined facts clearly demonstrate, in the opinion of Dr. Tiedemann, that the brain and cerebellum proceed from the spinal marrow; or that, to employ a modern expression, they are an efflorescence of it. In running through the scale of animals, ample confirmation may be found of the assertions here advanced. The structure of the encephalon and spinal marrow becomes complicated in proportion as we ascend from fishes to reptiles, birds and mammalia. If the contrary opinion were correct—if the spinal marrow were derived from the brain, the cerebrum and cerebellum must necessarily be found the first formed in the fœtus, which is not the case. It is equally necessary that, in the animal scale, where it is impossible to mistake a gradation in the figure and development of the organs, that a complete brain should exist previously to any trace of a spinal marrow; but this is never observed. Comparative anatomy, on the contrary, shows that the spinal marrow is very large in the inferior classes of animals, while the brain forms but a small and delicate prolongation of it; and in ascending from reptiles to birds and mammalia,

it is seen gradually to increase in volume and complication, as absolutely takes place in the foetal encephalon. Other arguments might be adduced in support of this proposition; but they are deemed superfluous by Dr. Tiedemann, who would despair of convincing any one not perfectly convinced by the facts already enumerated.

From the imperfect sketch which has just been traced, some idea may be formed of the nature and merits of Dr. Tiedemann's work. That he has not wholly kept clear of slight inaccuracies must be allowed; nor will it be thought wonderful when the difficulty and complication of the subject, and the soft and delicate structure of the organs which he has been examining, are duly considered. He relates, in a plain but sometimes heavy style, the result of his observations and researches on the anatomy of the brain; and his luminous descriptions are greatly assisted by carefully-drawn figures, wherein are exposed numerous minute details, of which it would be otherwise difficult to convey a correct idea. It moreover appears, that he has preserved in his museum, specimens of the embryo brain in every stage of its development, in order to convince the sceptical of the accuracy of his assertions. This method he considers indispensable at a period when, unfortunately, we too often see described and delineated objects of which nature has never exhibited the model.

Upon the whole, the work of Dr. Tiedemann is perhaps one of the most extraordinary productions which has appeared in the present century; and we have little doubt but that the assertions contained in it will acquire ample confirmation from the labours of future anatomists: for from the precept of our immortal Bacon, which he has selected for his motto, and which we close our long analysis with strongly recommending to the attention of all medical writers, he seems never to have wilfully or consciously deviated: *non fingendum est, aut excogitandum, sed quid natura faciat, observandum.*

## II.

*General Elements of Pathology.* By WHITLOCK NICHOLL, M.D., &c. &c.

THE more that practical medicine can be proved the result of precept, the more satisfaction will be felt by a well-constituted mind in its cultivation and exercise; and although hypotheses, reared upon such a foundation as evinces a forgetfulness of Baconian restrictions, or the legitimate canons of inference, are worse than nothing; yet the individual who abandons all guidance through clinical difficulties, but that of

unassisted observation, must be condemned, not merely as an unscientific, but as an unsafe Practitioner.

Dr. Whitlock Nicholl had, previously to the publication of the treatise before us, established his claim to the rank of a thinking Physician; and even our own pages have been furnished with many proofs that empiricism, in any shape or form, is far, very far, from being attributable to the respected author of the *Elements of Pathology* now to be noticed.

The volume is penned in rather too aphoristic a form to admit of satisfactory analysis; but in the following review we shall aim at making its contents as familiar to the reader as is consistent with our plan and limits.

In the first place, the author presents us with "an outline of the human economy." He then treats of the "quantity of the blood," the "action of the heart," and arteries, and the laws of secretion, exhalation, and absorption. The subsequent titles of the sections are, "alimentary canal," "pulmonic process," "cranial brain," "spinal brain," "sensibility of nerves and nervous powers," "temperature," and "muscular action." We then meet a string of "general inferences," and a very long appendix, in which the pathological postulata of the writer are made applicable to the "phenomena of fever," to "inflammation," and to "absorption."

Our author's propositions with regard to the quantity of blood are the following:—

"If there be an increase of the mass of blood, unaccompanied by an increase of the action of the heart, either as to force or frequency, the blood, although its quantity is increased, will have its momentum diminished."

"If the mass of blood be increased, and if the action of the heart be also increased, so as to propel the greater mass with freedom, the momentum of the blood will also be increased."

In the first case, irregularities in the distribution of the blood occur, according to the assumptions of Dr. Nicholl, from the tonicity of arteries being less strongly opposed, and the capacity, especially of the smaller branches, being thereby lessened, (the tonicity in these being naturally stronger in proportion to their size than in the larger,) and an increased proportion of the mass of fluid being thus thrown upon the greater vessels and the heart. From this source, congestions and accumulations likewise take place in the cerebral veins and sinuses, and consequent disorder is induced of the whole nervous system. If this congestion be carried to the length of occasioning exhalations, the production of nervous power will be actually lessened, unless the exhaled fluid be removed, and complete disorder will be occasioned of every part and function.

The general result of the second condition of the circulating mass, stated in the above aphorisms, will be an increase of the nervous sensibility and muscular energy, a subsidence of the depressing passions, and a freedom in the exercise of every function. But when the increased quantity of blood circulating through the brain, in consequence of this condition of things, is carried up to the pitch of *erethism*, inflammation may be soon induced, and the nervous system will now become disordered in consequence of too much blood in the cerebral vessels, upon quite different principles from those in the former case.

“ If the quantity of blood in the vascular system generally be lessened, the heart (having a smaller mass to propel, and probably receiving a slighter stimulus than before, and probably also having the tone of its fibres diminished, owing to the lessened quantity of blood that flows through the coronary vessels,) will act with less force, or with less frequency, or its actions may consist of feeble contractions, quickly repeated. The blood, then, will either flow in a languid manner, or it will be rapidly hurried through (over) the round of the circulation. The momentum of the blood will be lessened; consequently, the smaller arteries will more successfully oppose the entrance of that fluid into them. This increased resistance of the smaller arteries may still keep up in the larger arteries a quantity of blood nearly equal to that formerly contained in them. The quantity of secreted fluids will be diminished; but if the blood flow in a feeble manner, the usual quantity, or even an increased quantity of it may pass from the open mouths of the exhalants.

Still the blood, although its quantity be much lessened, flow with increased rapidity, the velocity with which it is distributed, may, in some respects, compensate for its diminished quantity; still, as the actual quantity of it is lessened, the quality of the fluids separated from it in secreting vessels, will not be the same as before, even supposing that these fluids are secreted in the usual quantities.

As a smaller quantity of blood will, in the case now under consideration, flow through the blood vessels of the cranial and spinal brains, the functions of those structures may be more or less suspended or destroyed. The nervous power may be sparingly produced, and it may be irregularly distributed. The sensibility of the nervous system generally will be lessened. The temperature of the surface of the body will be lessened. Sensation may be feebly and scantily produced. The livelier passions may be wanting; and the faculties may be feebly and imperfectly exerted.

It may happen, in consequence of the languid motion of the blood, that an increased flow of fluid may take place from the cerebral exhalants; in which case, inordinate compression of the cerebral substance may arise.

All these altered states of the nervous system, of the muscular system, and of the intellect, will re-act upon the system of supply and waste, and upon the parts appended to it, increasing the disorder of these several parts.

"The quantity of the general mass of the blood is dependent upon the quantity of supply which that fluid receives from absorbing vessels, and upon the extent of the waste which it suffers from the processes of secretion and of exhalation."

We have thus given the contents of this section of the treatise pretty fully, as the enunciation of the laws, in respect to the quantity and consequent distribution of blood, constitute the base of our author's pathological reasonings on the subject of inflammation and fever; and as there appears to us to be a good deal of sound philosophy in his positions and inferences.

We do not, indeed, exactly see why those irregularities in the circulation and in the distribution of nervous energy, which the author describes as the result of plethora, should necessarily grow out of such condition, unless, added to this inordinate quantum of blood, there be some other cause of partial and irregular distribution; for a diminished momentum merely (even taking into account the different degrees of tenuity possessed by the capillary vessels) would not of itself be productive of this effect. Did these consequences thus of necessity flow from the premise of plethora, an individual could never have his due quantum of blood added to in the smallest measure, without actual disorder being induced, unless, with an increase of quantity, a proportionate increase were simultaneously brought about of the heart's momentum. That more than a due supply of blood to the demands of the frame increases the susceptibility to deranged action, is sufficiently evident; but that plethora thus induces disease as a necessary and invariable consequence, is not perhaps quite so certain.

In treating of the heart's action, Dr. Nicholl adverts to its rapidity, which may consist either with weakness or strength, to its increase of force, to the conjunction of force with rapidity, and to diminished action. It will always behove the pathologist and Practitioner to weigh well these different circumstances and the causes of them; whether they exist in the heart itself, the state of the nervous power, the quantity and quality of the blood, or the condition of the absorbing and repairing functions. It is, moreover, necessary to recollect, in reasoning on the animal economy, that each part and organ of the body has its specific and appropriate stimulus. Thus; in the instance of cardiac susceptibility, —

"It is possible that the action of either ventricle may be lessened owing to an altered state of the blood which it contains. Thus, if dark blood be received by the right ventricle, or dark blood by the left ventricle, the action of each of these cavities may be lessened."

With respect to the tonicity of the arteries, and the laws of secretion, we meet with nothing that need arrest our attention; it may suffice to say, that the axiomata which state these laws are conceived and put together with a clearness and philosophical acumen. The urinary secretion is, however, particularized in the following proposition:—

“If there be a diminished secretion of urine, there will be, in addition to the other consequences of lessened secretion, such an unnatural condition of the blood, as may, from the circulation of that blood through the cerebral blood vessels, induce possibly an erithismal state of the cerebral substance.”

There is no particular in the animal economy about which we are so much at fault in our physiological and pathological deductions from premises, as in the case of secretion influencing the quality of the blood; and much requires to be known on this head, before we can draw inferences with any thing like correctness. The obscure relations which the urinary secretion especially bears to other functions, is remarkable; and it seems extraordinary, that a discharge of waste should be furnished with such complicated properties. In its relations, (says Sir Charles Morgan,) to the general economy, this secretion seems to be supplementary to very high powers of animalization; being destined to remove (according to Fourcroy, and others) the hyper-organized matter, which, if allowed to remain in the circulation, would necessitate the decomposition of the blood.”

We are told by Dr. Nichol, in his further remarks on secretion, that the presence of preparations of mercury in the blood leads to a general increase of secretion; it also affects, in a particular manner, the secretion of bile. Query. Is this last proposition fully warranted by facts?

“May not,” our author further asks, “the secreting vessels become obstructed, in consequence of an altered quality of the blood, arising from a deficiency of its watery parts; the blood, in such cases, being not sufficiently diluted to pass with freedom through those vessels?”

This suggestion, unless it had been put in the form of a query, would seem to sound rather too Boerhaavian for present day pathology.

The section which treats of “exhalation,” is concluded in the following terms:—

“The exhalants may be so altered as not to allow the usual quantity of fluid to pass through them. Such alteration may occur during a great increase of the sensibility of the nervous system, or in consequence of a diminution of temperature. It may also occur when the evolution of heat from the surface of the body is much increased, as is seen in febrile cases.”

If, however, faith is to be put in the experiments of Alexander, which are referred to by Darwin, the fluid exhalation is as great during the presence of febrile heat as afterwards, when drops appear on the surface in form of sweat.

When treating on absorption, Dr. Nicholl takes occasion to say that our inferences have been too precipitate with regard to the influences of powers, medicinal, dietetic, or mental, on this function.

"It may happen, in many cases, that when we consider certain effects to result from an altered degree of absorption, we may be mistaken; especially as the absorbents are so minute, that when they open on surfaces which are exposed to our view, we are unable to distinguish them."

In adverting to affections of the stomach, as operative upon the absorbing energy, Dr. N. perhaps gives in too freely to the mechanical notion of vomiting as an absorbent process. "The action," he says, "termed retching, which causes the contents of the thorax, and of the upper part of the abdomen to be pushed upward, has a tendency to force onward the contents of the common trunks of the absorbents; and accordingly we find that the act of vomiting, or retching, is, in many instances, followed by an increase of absorption." But the mere excitation of *nausea* will operate often a general effect upon the absorbent energy, when nothing of this pressure and propulsion can have place. The effect seems to be purely sympathetic, or to result, in some inexplicable manner, from a particular condition of the sentient faculty, under the circumstances supposed.

On the functions of the alimentary canal, and on the pulmonary process, we do not meet with any propositions that appear at all debatable. The same may be said with respect to the sections on the cranial and spinal brain, on the nervous power, and our temperature; which last subject, we think, ought to have been investigated somewhat more in detail.

The laws which regulate muscular action and sympathies are traced with sufficient perspicuity; but much of novelty could not be expected under this head. In vomiting, Dr. Nicholl does not seem to think the stomach so independent an organ as is contended for by some physiologists. He talks of "combined muscular actions," as constituting the act of retching.

We should now proceed to take a cursory survey of our author's "general inferences," and the application of his postulates to the pathology of fever and inflammation; as,

however, we cannot, in consequence of the limited space which is this month given to the Review Department, do justice to the subject, we must defer its discussion to our "General review," to which the two succeeding Numbers of the REPOSITORY will be principally devoted.

### III.

*A Conspectus of the Pharmacopæias of the London, Edinburgh, and Dublin Colleges of Physicians; being a Practical Compendium of Materia Medica and Pharmacy. Third Edition.*  
By ANTHONY TODD THOMSON, F.L.S., &c.

OUR only intention in transcribing the above title-page, is for the purpose of soliciting the attention of the reader to Mr. Thomson's most excellent manual. We really know of no book which contains so much medical information in so small a compass; and we are sincere in expressing it as our opinion, that neither Student nor Practitioner ought to be without it. To a most admirable compendium of the Pharmacopæias is added an appendix on poisons, arranged alphabetically, a list of elegant formulæ, and an analysis of mineral waters, while the whole is comprised in so small a compass, (the printer, by the way, is entitled to a considerable share of praise,) that, without incommoding much the pocket, an individual may furnish himself with that opportunity of constant reference which every prescriber feels, let his acquirements be what they may, that he occasionally stands in need of. An analysis of such a book is, of course, out of the question. It is itself a most able and most useful analysis of several books.

### PART III.

### SELECTIONS.

*Experiments and Remarks, illustrating the Influence of the Eighth Pair of Nerves over the Organs of Respiration and Digestion.* By S. D. BROUGHTON, Member of the Royal College of Surgeons, one of the Surgeons to the St. George's and St. James's Dispensary, and to his Majesty's Second Regiment of Life Guards.

(Concluded from page 247.)

#### Experiment 15.

In a full-grown rabbit, after about eight and forty hours' fast, the nerves were divided as usual, and it then ate heartily

of some parsley placed before it. It very soon appeared to be suffering some uneasiness, and draw its breath rather slowly. The operation was performed then after eight A. M. In the evening the animal appeared to be quite well, and was moving about as usual, having been quiet during the day, and free from difficulty of breathing. No further symptoms were observed, but in the morning it was found dead. The cesophagus was full of chopped parsley. The stomach contained a considerable quantity of dark brown coloured parsley, with abundance of fluid and chyme. In the duodenum the mixture of bile was perceptible, and a quantity of chyle was thus formed. Much yellowish looking fluid also filled the lower intestines. There was not the smallest putrid or sour odour perceptible to any one. No increased vascularity could be traced in the intestinal canal and stomach. The lungs were of a dark purple, and highly gorged with blood, and the heart was full of coagulum.

Having, by these experiments, distinctly ascertained, that the division of the eighth pair of nerves is not necessarily followed by an immediate cessation of digestion, but, on the contrary, that digestion continued in every case, excepting the last hour, so long as the animal was otherwise in a condition to digest; and having also observed, that the approach of the dyspnoea is much varied as to time and degree of severity, and that it will sometimes go off entirely and be renewed again, it is wholly unnecessary for me to pursue the galvanic part of the experiments.

With respect to the different periods at which dyspnoea comes on, it has been objected to my observations of their being indefinitely prolonged, that in animals covered with fur it is difficult to detect the movements of the respiratory organs, and thus, in rabbits, they may escape observation. But I am, nevertheless, disinclined to give up the opinion which I have formed on this point; because, although I am aware of the truth of the objection to a certain degree, yet, when I observe so much liveliness generally following the division of the par vagum in rabbits, and continuing for certain periods till the dyspnoea is apparent; and when I compare this appearance with the peculiar dulness and aversion to motion and taking food, together with the position of the head and body on the accession of the symptoms, I am induced to believe that my observations are not unfounded, and that the symptoms do not in all cases come on immediately, but often at differently protracted periods from the operation. If, indeed, I could have entertained any doubt on the subject, that must have vanished, from the observations I made (in the thirteenth experiment) upon the

action of the diaphragm, by means of an opening into the cavity of the belly, which afforded me a distinct view of its motion.

I must now observe, in relation to the appearances of digestion, that I have not drawn my conclusions without frequent comparative observations upon the stomachs of rabbits (these being the animals which I principally employed) after feeding them with parsley subsequently to some hours' fasting, and killing them at different periods. Such observations on rabbits simply destroyed without dividing the par vagum, compared with those on which division of the nerves had been practised, led me to observe, that no difference was at all perceptible in the state of the food amongst the rabbits examined and compared, beyond the greater or less degree of progress which digestion had made, in either; whilst in all which were operated on, the parsley eaten at the time of dividing the nerves chiefly occupied the caudal portion of the stomach, was more or less moist and broken, and more or less enveloped with chyme; appearances precisely coinciding with those of the rabbits not operated on. Moreover, no difference could be detected in the odour emitted from the contents of the stomachs; and in an animal fed after a long fast, and then immediately killed, the parsley in the stomach exactly resembled that of the oesophagus in the rabbits operated on, being free from a mixture of fluid, and of a bright green colour; being, in fact, nothing else in appearance but simple chopped parsley, unacted upon to the smell as well as to the eye. If any doubts can exist as to the appearances I have described being any other than those which result from digestion, I appeal to the experiment on the dog, in which a small quantity of whey remained after he had drank a saucerful of milk, and the curd had disappeared. I may appeal also to the experiment of the second horse, in which, the animal having eaten of hay freely during twenty-four hours of apparent absence of all symptoms, there was found scarcely any hay in the stomach. In addition to which it is to be observed, that this horse, as well as the dog and the rabbits, passed faeces and urine naturally at different periods, after the division of the nerves.

From a general review of the testimony of former authorities, I cannot perceive that the conclusion which my experiments have brought me to, essentially differs from past experience, though it is absolutely at variance, in a most important point, with that of Dr. Wilson Philip and his supporters, in that, that some authors notice the loss of power in the stomach to digest food after the division of the eighth pair of nerves, but nothing of the kind is mentioned by the

majority of authors; many of them deny its occurrence, and none state it to be an immediate consequence. Le Gallois, who pursued the inquiry into the effects of dividing the par vagum to a very considerable extent, met with one instance only (in a pig) in which digestion ceased altogether.

I by no means mean to assert, that the division of the par vagum does not affect digestion at all, or that it is continued as perfectly as before the division of the nerves. The symptoms continuing, the disturbance to digestion is eventually very great, sooner or later, till the general injury which the principal vital functions suffer, puts an end to the animal's life.

Though I am at a loss to account for Dr. Wilson Philip's assertion, that the function of digestion ceases immediately after the division of the eighth pair of nerves, and that it is a phenomenon from which he and his supporters know of no deviation whatever; yet I think it is very easy to reconcile all the contradictory statements elsewhere, from the earliest to the present day, when it is considered how much the phenomena, produced by the experiments under consideration, have differed in their time of coming on, their progress, and general character; variations dependent upon the different species, ages, and other circumstances of the animals employed, as well as, very possibly, on the part of the nerve divided.

But that the par vagum exclusively holds such absolute control over the secretions of the stomach, as to render it impossible for them to be produced after its communication with the brain and stomach is cut off, cannot surely be credited, considering the ample testimony which I have brought forward to the contrary; testimony not resting upon my own experience alone, but supported by that of the ablest physiologists of ancient and modern times. Referring, therefore, to this testimony, I am bound to believe, that it is perfectly erroneous to assert, that digestion directly and invariably stops as soon as the eighth pair of nerves is completely divided. Consequently, the most rational inference appears to be, that animals are affected in *different degrees*, some, though very rarely, so as to be deprived of all power of digestion, while the generality continue to digest with more or less facility for certain periods.

Having thus put the question relative to the influence of the par vagum over the functions of the stomach in (I hope) a more satisfactory point of view than it has hitherto appeared in, and shown the fallacy of Dr. Wilson Philip's premises in his theory of the analogy between the galvanic and nervous powers, I shall conclude, with some few suggestions relating to the manner in which it appears to me to be probable,

that the symptoms following the division of the par vagum

The lungs themselves are supplied by the eighth pair of nerves, whilst the stomach receives branches also from the great sympathetic nerve. All animals which have both lungs and a stomach are found to have the par vagum; but in those which are not furnished with lungs, I believe, no such nerve is to be found. Hence the phenomena of dividing the par vagum are analogous to the indications of anatomy, which lead to a consideration of this nerve being solely destined to afford sensibility to the lungs, whilst at the same time it assists in preserving the due performance of the functions of the stomach; but in what precise degree it is difficult, if not perhaps impossible, to determine. The functions of the stomach are carried on in some of the lower animals without the par vagum. In two experiments by Mr. Brodie, wherein he divided the stomachic branches of the par vagum below its distribution through the lungs, the animal (a cat) lived and digested, to all appearance, as usual. In the experiments which I have cited, digestion seemed to have gone on as it ordinarily does, till the continuance of the distressing symptoms following the division of the nerves rendered the animals no longer capable of supporting the functions of life; and, in some cases, it appears that the food has remained in the stomach altogether undigested.

Hence, then, does not the opinion of Le Gallois appear to be correct; that the lungs are the primary seat of the striking effects observed after the division of the eighth pair of nerves, and that it is through this organ that the functions of the stomach suffer, and death is finally produced?

Mr. Brodie, in his lectures at the College of Surgeons, put this also in a very clear light, by observing, that the lungs are endowed with sensation, through the influence of the par vagum; and that, being deprived of sensation from the division of the nerve on both sides of the neck, they gradually cease to act, and the muscles of respiration in vain strive to effect the proper circulation of air. The consequences must be apparent; the blood is prevented from imbibing the wholesome influence of the atmosphere; it becomes dark, discoloured, and unfit for the proper secretions of the stomach, and by degrees ceases to circulate altogether; the lungs become collapsed and turgid, and the heart loaded with coagulum. Such are the appearances actually observed, and which, in their progress and their influence over the functions of the stomach, exert themselves in different degrees, varying in time and severity, according to the species, age, and other circumstances of the animal, and (as is strongly demonstrated

in the cases of the dog and the cat, and here, in experiments 8 and 14,) a suspension of all symptoms will sometimes occur, during which no impediment is put to digestion, or any of the functions of life.

It is to the retardation and the interval of a suspension of symptoms, that I am induced to ascribe the continuance of digestion after the nerves have been divided. In the case of the rabbits, time was allowed for a certain progress in digestion to be made before the symptoms assumed a severe character; but, in the case of the last horse, (communicated by Mr. Field,) wherein the symptoms came on immediately, and continued for about sixty hours, no opportunity seemed to be allowed for digestion to be performed. These circumstances, I think, tend to confirm the opinion of Le Gallois, that it is through the impediment put to respiration and the proper circulation of the blood, that the organs of digestion suffer; and in proportion to the affection of the lungs is the distress which evidently oppresses the stomach.

With regard to the efforts to vomit, in those animals which are incapable of doing so effectually, and the actual vomiting of others, which soon, and often immediately occur, it may be that this is an immediate affection of the stomach, upon the same principle as that of concussion of the brain, or the motion of a ship at sea exciting nausea and vomiting. The parsley found in the oesophagus must be the result of ineffectual efforts to throw it off the stomach, and, being that which lies uppermost, and unaltered by digestion, forms a striking contrast to what remains in the stomach, and which has undergone more or less alteration.

The expedient of Le Gallois for restoring the free access of the air to the lungs, by cutting out a piece of the trachea, may be supposed to give temporary relief to the symptoms, if the obstruction depend, as he thinks, upon contraction of the larynx in consequence of cutting off the recurrent nerve. But, if the *par-vagus* be considered as a nerve of sensation to the lungs, then it cannot be conceived that this expedient is calculated to restore their functions; since, if they be robbed of their sensibility, they cannot act as they do naturally by the stimulus of the atmospheric air, which may be let in by an opening of the trachea, it is, true, but, in vain; for it cannot circulate when the lungs are unable to continue their action.

Having noticed this explanation of Le Gallois, I determined to put it to the test of experiment. Mr. Field, to whom I have before acknowledged my obligations for his professional assistance, afforded me an opportunity of observing the effects of taking out a piece of the trachea, after

dividing the par vagum in the centre of the neck on each side. The subject of the experiment was an healthy pony of six years old. The animal was seized with violent efforts to breathe directly following the operation, and the excision of a large portion of the trachea afforded no immediate intermission of this difficulty in respiring. The symptoms went off for a time, but returned during the day, at intervals, with the same violence; and the pony died in a state of exhaustion about seven hours after the division of the nerves.

I subsequently performed the same experiment on a full-grown rabbit, which was attacked with slow respiration very soon afterwards. The symptoms returned after having apparently subsided, and the animal was found dead in the morning after the operation. In neither of these cases was there any demonstration of relief from an excision of the trachea, nor any prolongation of life beyond the usual periods. I have been informed by Mr. Brodie, that he also has tried the effects of making an artificial opening in the trachea with no better success.

I am inclined to think, that the most probable mode of accounting for the retardation and suspension of symptoms which have been noticed, is the various degrees of susceptibility in different animals and at different periods of life; and that when the symptoms are not immediately apparent, or having come on go off again, the nervous influence supplied before the division of the nerves has been sufficient to avert for a time the consequences of its farther supply being cut off, or to overcome the immediate shock which some animals experience, and allow of an interval of natural respiration and a due circulation of blood to be carried on.

Peculiar states of the constitution, and disease, as well as age, &c., no doubt, have also their share in modifying the manner in which the division of the par vagum affects different animals; and hence it appears to be presumable, that the inquiry into the influence of the eighth pair of nerves over the organs of respiration and digestion, hitherto conducted for objects solely physiological, may, if properly pursued, open to medical practice a field of pathological investigation, calculated to throw considerable light on some affections of the thoracic and abdominal viscera, at present remotely and imperfectly understood.

## PART IV. FOREIGN MEDICAL SCIENCE AND LITERATURE.

[The following curious Case, from the "Revue Médicale," is presented to the reader in the absence of our usual supply of foreign matter.—D. U.]

*Case of an Affection from Narcotic Drugs simulating Somnambulism.* By M. SARLANDIÈRE, M. D. From the "Bulletins of the Medical Society of Emulation." Published in the "Revue Médicale" for February.

On the fourteenth of March, 1820, Dr. Sarlandière was summoned to see a tailor, in the forty-fifth year of his age, whom he found in a state of permanent convulsion, with commencing symptoms of opisthotonos, the eyes being fixed and open, and the pupil so much dilated that the circle of the iris was scarcely perceptible: the limbs were at first convulsively moved in an automatic manner, which movement afterwards gave place to a kind of tetanic spasm.

The wife of this individual was likewise affected: she was, however, without the convulsive agitations of her husband; but she had fixed eyes, with excessively dilated pupil.

Dr. Sarlandière having learned that the affections in question followed the use of an enema, attributed the symptoms to narcotic ingredients, of which the injections might be composed; and he therefore, in concert with M. Delarue and M. Calauze, set about an examination of these ingredients, which were found to consist of datura stramonium, and the papaver nigrum, which had been given to these individuals by a herbapist in place of emollient herbs.

Purgatives were immediately administered in the form of Clysters, and acidulated injections afterwards thrown up, as well as acid potions given to drink.

At the end of about an hour from the commencement of this treatment, the spasmodic rigidity by which the man was affected gave way, and he almost immediately placed himself in his bed, in the same attitude as when sitting on his board; and now the symptoms of somnambulism became completely marked. He was imaginarily engaged in his usual occupations, appeared to be extending or folding up cloth, took hold

of something which he supposed to be a needle, appeared to be threading this needle, and made a knot upon the imaginary thread. Sometimes supposing that he had let the thread slip, he renewed the operation of threading; and he appeared to make several unsuccessful attempts at pushing it through the needle's eye, till at length he seemed to have succeeded.

These statements are thus given in detail, for the purpose of showing to what extent the brain was occupied with a certain set of ideas: and it is necessary further to say, that all endeavours to make him hear and see were fruitless. He took not the smallest notice of loud sounds addressed immediately to his ears, nor did he regard any object placed before his eyes, intent only on his imaginary employment.

At times he seemed to conceive that some one had entered the room, and his countenance then assumed a smiling aspect, and he moved his lips as if speaking, (no sounds, however, were emitted); the motion of his lips then ceased for some time, and he appeared to be listening to the reply of the visitor. He occasionally made the motion as if of spitting, although in effect he did not spit. Now he seemed occupied in measuring for clothes, now in arranging and folding his cloth, cutting it with his scissors, and, in fact, doing every thing in the way of his calling. He was thus occupied for the space of fifteen hours, without eating or drinking any thing, excepting a few spoonfuls of citric lemonade, and this it was difficult to make him take.

By degrees he recovered the power of speech; he then commenced a conversation, imagining that he received answers to his remarks. It was not till towards the evening that he actually understood what was said to him, and replied rationally: his sense of sight was not restored till after the return of his speech; he shortly, however, was able to distinguish the persons who were about him. His head, notwithstanding, still continued to run upon his business; he persevered in his supposed employ, and actually conceived that he was making use of his trade utensils. This continued influence of the disordered imagination constituted, indeed, the most remarkable feature in the case. M. Sarlandière, at his sixth visit, found him under the same delusion; he was conversing familiarly with those about him, but still on the subject of his business; and all endeavours to convince him that he was not on his board, but on his bed, proved unavailing. It was now midnight, and M. Sarlandière ingeniously hit upon an expedient to change the current of the poor tradesman's feelings and thoughts, by holding a watch to his

ear, letting him hear it strike the time, and then remarking that business had better be abandoned for the present, or it would prove too fatiguing, injure his health, and prevent the capacity of working the next day. This last suggestion proved the most effectual. The poor man now descended from his imaginary board, undressed, and laid himself down to rest. During the remainder of the night he was calm, with the exception of some involuntary startings; and, on the following day, his senses returned. A slight fever succeeded to all this agitation, which, however, soon yielded to a proper diet, quiet, and acidulated drinks.

In the case of the woman, the derangement was not so complete; but this was attributable to the circumstance of her not having succeeded so well as her husband in throwing up the injection, and to the immediate return of it. Almost immediately after the operation, she found herself strangely affected with giddiness; her arms seemed to have the weight of lead; she saw thousands of flies about her, to which succeeded a number of serpents, lighted kilns, and apartments hung with black; but in the midst of these objects she occasionally perceived those by whom she was really surrounded: she saw her own apartment, her husband, her furniture, &c. She continued the whole of the day sitting on a chair; and she thought that needles, scissars, and pieces of cloth, lay about her. Sometimes she tried to lay hold of these things, in order to occupy herself at her accustomed work; but they seemed to elude her grasp. Sometimes she felt that she had succeeded in getting hold of them, and she set about using them as usual. The above she afterwards related from recollection; and M. Sarlandière had remarked, that her actions during the paroxysm corresponded with her accounts.

In her, as well as in her husband, the pupil of the eye was excessively dilated; the eyes themselves were fixed, and fully open: but throughout she was more alive to her actual condition, and when questioned as to the cause of her disorder, she attributed it to the enema she had taken in the morning. Sometimes she suddenly started, as if urged by a momentous impulse; sometimes she rose up, as if to run rapidly from a pursuing enemy. But, during the whole time, she preserved the use of her speech, her ears, and even her eyes, when her attention was forcibly called to surrounding things.

## PART V.

MEDICAL AND PHYSICAL  
INTELLIGENCE.

## MEDICAL SOCIETY OF LONDON.

On March the 8th, the Anniversary Meeting of this Society took place, when the following gentlemen were elected officers for the ensuing year:—

President, Dr. Uwins;—Vice-Presidents, Dr. Blegborough, Mr. Abernethy, Dr. John Mason Good, Mr. Pettigrew;—Treasurer, Mr. Anderson;—Librarian, Dr. Hancock;—Secretaries, Mr. Callaway, Mr. Pettigrew;—Secretary for Foreign Correspondence, Mr. Blegborough;—Dr. Hugh Ley was appointed to deliver the Oration, in March, 1822; but as that gentleman has declined accepting the appointment, Dr. Copeland was elected orator in his stead.

The oration for the present year was delivered by Mr. Callaway, and consisted of a very masterly disquisition on some of the most important affections to which the urinary organs are obnoxious. Mr. C. has been earnestly requested by the Society to publish this valuable paper; but as he has refused to comply with this request, we shall take the present opportunity, with his permission, of presenting an outline of its leading features.

“It has been proved, by minute anatomical examinations, that all the mucous membranes of the body are not only contiguous with the common integument, but they partake, in a very great degree, of the nature and construction of its organization; they have many points of contact with it, the actual place of contact being represented by a red line; as the lips, the nostrils, and extremity of the rectum, with numerous others, of which there are sufficient examples, similarly to the skin: the mucous membranes are divisible by maceration into three strata: the first united to the parts in contact with it, which almost universally are muscular fibres: next a reticulated tissue, which unites the former to the third, or exposed surface, which latter is preserved in a constant state of humidity by a secretion (which, from its nature, has given its name to the membrane itself), furnished by secretory glands, lying in the reticulated medium, and conveyed thence by their excretory ducts, to the surface of the mucous membrane.

“It will be found that a great number of the sympathies of the animal body are supported through the medium of mucous surfaces; an investigation of which, as well as affording illustration of the disease hereafter to be described, furnishes numerous and highly interesting facts: we will, therefore, take a slight glance at this part of physiological science.”

The orator then went on to consider the three classes of sympathetic affections, denominated, by Bichat, the sympathy of sensibility, irritability, and tonic; and having remarked, that there are no instances of a mucous surface unconnected with muscular structure, he states that, “all the sympathetic influences of the body may be ranged under two kinds: first, those which produce simply sensation; and, secondly, those which are productive of muscular action.” Mr. Callaway then proceeded, by adverting to those relations which the mucous membranes bear to the outer skin. On this head he expressed himself in the following terms:—

“The similarity in structure of mucous membranes with the skin, its continuity with it, &c., render them liable to similar diseases, and to be often secondarily affected by its own. This communication of diseases

from the skin to the mucous membrane occurs in a remarkable manner in the exanthemata, and particularly also from impressions made on the skin by variations of atmospheric temperature, and thus explaining the cause of catarrh: these membranes are also liable, in the same manner as the skin, to callosities, and thickening, in consequence of pressure: this is to be observed in the membrane of the bladder, from the pressure of a stone. The mucus, by which these membranes are covered, appears as a defence to their surface against bodies which must often otherwise be brought into contact with it: this fluid seems to perform the same office for its membrane, that the epidermis does to the sensible papillæ of the organs of touch; and, therefore, is furnished more abundantly in those parts which, from their functions, are more likely to be subjected to irritating causes; such as the ureters, bladder, urethra, the rectum, the œsophagus, and all excretory ducts: its quantity is increased, and its quality altered, by irritation and inflammation of the membrane by which it is secreted, as is witnessed in the acrid nature of the profuse discharge from the Sniderian membrane in catarrhal affections, and in the purulent secretion of the bladder and urethra, under its respective diseases, in a healthy state; it is a transparent, viscous, adhesive fluid, of a saltish taste, and which reddens the tincture of turnsole; it is constituted of water, muriates of potash of soda, acetate and phosphate of lime."

Now when the secretions, peculiar to the mucous tissues, lose their natural character, pus is substituted often in their stead; and this change is sometimes produced through the medium of active and positive, sometimes of more chronic, and less decided inflammation: an instance of the last we have in that disease called catarrhus vesicæ, or cysterrhæa.

It principally attacks persons in advanced years. Cold applied to the surface of the body, by suppressing perspiration, often produces the disease; as well as certain states of atmosphere, which are well known, have a peculiar tendency in inducing catarrhal affections: from these causes the disease in question arises, in consequence of that connection with the skin which has been pointed out; the irritation of calculous concretions often gives rise to it; but it is more frequently occasioned by some constitutional derangement or predisposition, with difficulty traced; one of the most frequent is gouty diathesis; the fibrous texture of the extremities cease to be the seat of its attacks, and the membranous parts become the subject of them.

From the morbid predisposition which age gives the urinary organs, produced probably from enlargement of the prostate gland, it fixes upon the mucous membrane of the bladder, already predisposed to the impression of any morbid cause: there is also, in elderly people, an irritation kept up on this mucous membrane from the impediments to the expulsion of the urine; and cysterrhæa is a consequence. There is also some constitutional connexion in old persons between the morbid state of the bladder and the diseased state of the liver: at this period of life, the functions of the liver are performed irregularly, and the catarrhal affection of the bladder has been observed to be either increased or diminished in violence, in proportion as the liver has regained or lost its natural tone and power of secretion. The disease, in its incipient state, may often be relieved by those means which improve the general health, and restore an equilibrium in the secretions—the secretion of the bile should be, if possible, promoted in its natural degree: to effect this, the blue pill should be given every night; the skin should be preserved in a perspirable state; for, by restoring its secretion, the balance of action between this extensively diffused organ, and the mucous membranes (their analogy and connexion have been before described) is somewhat reproduced, and the excessive action of the membrane of the bladder may be lessened by an equalization of the function of these structures in general. The Dover's powder, in divided doses, may be

administered, with the hyoscyamus or cicuta, four or five times in the twenty hours, in copious doses of lime water.

"The use of the alkalies, at this period, is highly beneficial, more particularly the liquor potassæ, and the dried subcarbonas sodæ, which may be joined with the pure magnesia. Antimonials and opium may be given with the pilula hydrargyri at night, and rhubarb or Epsom salts, in the morning. The balsam Copaibæ, and turpentine, often have a most beneficial effect in these cases; at first they increase the irritation and discharge, but usually relieve, if not cure the disease. Uva-ursi is another remedy from which we should expect great advantage from its astringent qualities, but it must be given in doses of 3ss. ter in die. The hydrocyanic acid has been recommended in this disease; three or four minims may be given three or four times a day, unless the affection of the stomach or head should render its further use improper. Rubefacients may be used to the abdomen as liniment, antimon. tartar. or linimentum ammoniæ fortius, so as to produce vesicles: blisters should not be used, as they would irritate the organ itself: the hip or warm bath should also be had recourse to.

The above means having failed, organic disease becomes established, and we observe that cohort of painful and irritative affections which result from the connection between mucous and muscular tissue. True pus is likewise engendered, the distinguishing marks of which Mr. C. minutely points out. Now nothing beyond palliatives can be looked for, in medicines. Opiates, in large doses, are required; the introduction of a catheter, or hollow bougie, becomes necessary, and "an opiate solution in mucilage should be injected through a hollow bougie, by an elastic bottle into the bladder;" or the black drop may be injected in distilled water. Opiate or narcotic suppositories may be placed in the rectum also, for the purpose of abating the sympathetic irritations, and violent pains.

From vesical Mr. Callaway went on to the consideration of urethral disorders. Stricture, he said, was of three kinds or forms:

"1st. The *permanent stricture*, which is an alteration in structure by which the urethra is thickened, occasioning a diminution of the size of the canal.

"2nd. The *spasmodic stricture*, occasioned simply by a spasmodic contraction of the circular fibres of the urethra, and remains no longer than the spasm exists.

"3rd. The *mixed stricture*, is a combination of the first and second description."

Muscular structure may perhaps justly be supposed to exist in the urethra, since we observe phenomena, peculiar to this organ, which can only be developed by such structure, and "there is no example hitherto detected of a mucous surface unconnected with muscular organization."

"It has three divisions given to it; the anterior part, that which passes through the corpus spongiosum, about seven inches; membranous, or most contracted portion of the canal, about one inch; and that portion of the urethra which passes through the prostate gland, and hence termed *prostatic urethra*, is another inch in length: its figure cylindrical, but not equal in diameter throughout its whole length, it has three dilatations, its first dilatation is where it emerges from the bladder in its passage through the prostate gland, it decreases in diameter, and attains its utmost contraction in the membranous portion; in the bulb it again dilates, as described by Morgagni, then contracts towards, and as far as the glands, where it again dilates, and forms the fossa navicularis, and at the orifice it becomes again contracted. Here it will be necessary to refer to the observations before made of the sympathies of mucous and muscular structures, to show how intimately connected the urethra is, particularly its membranous portion, with some contiguous viscera, as the rectum, how readily it is affected by

every action, both natural and morbid, as is shown by any spasmodic effort of the levator ani and sphincter muscles: the most frequent seat of stricture appears to be in those parts of the canal where it narrows most, as in the membranous portion, just behind the bulb and an inch or two anterior to it; but by far the greater number of cases occur at the membranous part: rarely the stricture is found near the orifice of the glans penis.

The causes of stricture are those which excite irritation in the urethra, either immediately or consecutively. The distinction into the thread and riband kind is useless. In long continued stricture the bladder itself becomes considerably thickened; and cases have occurred of distinct muscular bands passing across the bladder, more particularly at its fundus, resembling in size and appearance the *carneæ columnæ* of the heart. In these cases, too, the kidneys and ureters become altered, the glandular structure of the former becoming lessened, while the diameter of the latter becomes enlarged.

“From the sympathy existing between the urethra and all other mucous surfaces, the functions of digestion become deranged, and great nervous irritability induced; these febrile symptoms coming on in the evening, and continuing during the night, recurring at the same hour for a week or more, and assuming an intermitting type, for which fever it has been mistaken.

“Epilepsy, and rheumatic symptoms, may be reckoned among the sequelæ of stricture. If the obstruction to the passage of urine be not prevented, or overcome by the passage of an instrument, then a retention of urine will take place, (the term, *retention* of urine, is often expressed, improperly, *suppression* of urine; this is an error that has crept into several works on this subject, and made by men who must well know the distinction, the latter being the defect of the secretion of the kidneys, while the *retention* is an inability to expel the urine, when secreted). Where surgical assistance has not been obtained, or where it has been found impossible to pass a catheter, the urethra will burst behind the strictured part; this usually results from the efforts of the patient to void his urine, and he will tell you he has heard “something crack in his passage,” a small tumor will there be felt in perineo, which increases rapidly, forming large abscesses, by the burrowing of the extravasated urine into the cellular tissue connecting those parts, and producing high constitutional irritation with extensive sloughing; and unless great care be taken, the life of the patient will be the sacrifice, particularly if the patient be advanced in years, which is most frequently the case. This accident often occurs from patients themselves passing bougies. A speedy opening should be made into the portion of the canal ruptured, and if tumefaction be considerable, numerous scarifications to give exit to the extravasated fluid; for, from its acrid nature, it causes most extensive suppuration: a catheter should be kept in the bladder, so as not to suffer any urine to pass by the urethra; and this will prevent any further infiltration into the cellular membrane, and at the same time restore the natural passage.”

On the treatment of stricture Mr. Callaway was brief, considering the general pathology of the complaints adverted to, as a more appropriate topic of discussion in an anniversary oration than minute surgical precepts. He, however, expressed his decided preference of the metallic sound for dilating strictures. “I have never seen,” he said, “a case in which such an instrument might not be used.”

“Having witnessed the pain, the irritation, and alarming symptoms from the hemorrhages, &c. which follow the use of the caustic, the tardiness, and uncertainty of the cure with the common wax bougie, I have been induced, in my own practice, to lay them aside, being fully satisfied of the superior efficacy of the metallic sound.”

After the oration a large number of the Society, and their friends, dined together at the Globe Tavern, and the evening was spent in the greatest harmony.

### *Death of MR. TAUNTON.*

WE have the melancholy task of announcing the death of Mr. John Taunton, of Hatton Garden, Surgeon to the City and Finsbury Dispensaries, and to the City of London Truss Society; of the last of which institutions he was the founder and principal conductor. He died on Monday morning, March 5, 1821.

Mr. T. was not an ordinary man. From the onset of his professional career to the termination of his valuable life, his assiduity and industry scarcely knew any bounds. He was originally gifted with a strong frame of body; but his astonishing exertions proved disproportionate even to his physical powers; and there is every reason to believe, that his premature death was the direct consequence of such exertions.

Mr. T. was brought up as a farmer in Gloucestershire; but finding an inclination to the study of anatomy, he came to town without, we understand, knowing a single individual in it; inquired at a shop in Holborn for the most reputed Surgeon and best anatomical instructor; was directed to the late Dr. Marshall, of Thavies Inn, and immediately waited upon him. As, however, he did not altogether feel pleased with the interview with Dr. M., he made further inquiry, and was recommended to Mr. Cline, of whom he immediately became a pupil, at St. Thomas's Hospital. Here the ardour and perseverance with which he cultivated his acquaintance with anatomy and surgery soon became conspicuous to all about him; and during the illness of the late Mr. Saunders, he was appointed demonstrator in the dissecting room. Nothing, perhaps, ever exceeded—nothing, indeed, could exceed the industry of our Student, during the time that he was engaged both as pupil and assistant at the hospital; which, after a few years' probation, he quitted full of credit and professional learning. He now soon became Surgeon to the City Dispensary, an institution which he found almost bankrupt in resources; but which, very shortly after Mr. T.'s election, recovered from its nearly exhausted state, and became a flourishing establishment.

To the Finsbury Dispensary also he had scarcely been appointed, when a reformation in its whole constitution proved that a new and powerful impulse was at the head of its concerns. With the City of London Truss Society, the name of Taunton will be identified to the remotest posterity. This, indeed, was an institution entirely of his own formation; and almost to the last hours of his life he was assiduously and unremittingly occupied in promoting its prosperity.

His private practice was latterly very extensive: indeed, the writer of this article, who knew him intimately, does not believe that any one individual in the whole metropolis daily attended so many patients as did Mr. Taunton. Applicants from all the above-named institutions were each morning at his door, to the amount sometimes of more than two hundred. To the last also was Mr. T. occupied in adding to a museum of morbid anatomy, which, as the collection of one individual, we believe, is altogether without compare.

It has already been intimated, that his life appeared to be curtailed by his, they may be called, super-human exertions. He died without organic or specific disease, at the age of fifty-one. Some of the public prints have erroneously stated that his disorder was a fever; contracted by visiting a patient. It was not so. He was suddenly seized with a prostration of powers, without those signs of irregular action and muscular action which

constitute fever, and died by a sort of collapse, carried beyond the power of medicinal interference.

Mr. Taunton has left a widow and three sons; the eldest of whom has been educated in the Profession; and has already, though a young man, prosecuted his studies to a greater extent than most individuals who have completed their career of instruction. In succeeding his father, he will have every advantage; and of every advantage we know full well, from a long observation of his character and habits, that he will fully avail himself.

The adjoining memoir was written by a friend of the deceased, and read by Mr. Honeywood, the Apothecary to the City Dispensary, at the late anniversary dinner of that Institution.

"I am asked for an eulogistic notice of the late Surgeon to the City Dispensary—but what eulogium could possibly be fairer than that which should be afforded by a simple history of his professional career—a career, marked as it was by incessant, unwearied exertions in the cause of benevolence and utility!

"Fortunate is it for mankind, when master spirits take a virtuous bias—*inasmuch* as not only their own immediate acts, but likewise, if it may be so expressed, their *intermediate* influence proves so powerfully operative over an extensive circle. A military genius, for example, will diffuse through a wide district a *spirit* of ambition. Deeds of blood shall become fashionable, because they are sanctioned by an individual whose strength of character, and commanding situation in society, give a stamp of rectitude, and air of sublimity to what, otherwise, and abstractedly, would be considered as any thing but virtuous and sublime—and this principle holds good from the greatest to the least of *ruling* characters. Now it is wonderful to what extent the authoritative example of the late Mr. John Taunton proved influential upon others. Did disinclination to duty threaten to fasten upon those who acted in concert with, or subordination to the person in question, they had only to reflect upon what he would do in similar situations, and the reflection would come upon the mind with the power of a command, 'Go and do thou likewise.' Did any thing in the way of temptation occur to swerve from the direct line of strict integrity, the recollection of how Mr. Taunton should conduct himself in the like circumstances, would fix the wavering spirit, and urge on the half resolve to the side of virtue. Did purposed perseverance flag before the end was accomplished, the merits and success of that man proved highly useful to recollect whose motto was '*nihil sine magno labore*,' and '*labor omnia vincit*.'

"But strength of character was not the only attribute of the respected person whose loss we now lament. To the *fortiter* he added, in a marked degree, the *suaviter*—not that accommodating suavity, which is the mere unperceptible result of a well-tempered frame of constitution, and which may occasionally prove in exercise actually *mischievous* to the cause of virtue; but that which arises from a due combination of *principle* with *feeling*—which respects age and sex, in all conditions and ranks of life; and which commands that we attend to the wants of the poor, as well by *demeanour*, as by *deeds*.

"But what, may it be said, were his motives for his benevolent exertions? Might he not, while *ostensibly* acting for others, be, in reality, acting for himself? Might not a desire for fame, or a wish for wealth, be concealed under the show of humanity, and pretension to feeling? If ever there existed an individual uninfluenced by even the legitimate and sober desire to gain the applause of his fellow-men, such does the writer of this memoir verily believe the subject of it to have been. With Mr. John Taunton, the determination to fulfil the demands of social existence was an abstract feeling—a passion which had neither origin nor object beyond itself. In the commencement, for example, and prosecution of that establishment, the good

effects of which have been felt, (I had almost said by millions) and which will certainly extend its blessings to thousands yet unborn, the most severe scrutiny could detect nothing but unmixed philanthropy—not the remotest suspicion could for a moment be entertained, that the feeling of self had the smallest share in the concern; for fact it is—and it is a fact which cannot be too much insisted on—that, long prior to the formation of the *City of London Truss Society*, the founder of it had intimated a wish to see other institutions appended to their plans—that of a systematic scheme of aiding the ruptured poor. His intimations were not regarded; and therefore it was that he undertook the establishment of this most excellent Institution. And in all the acts of his life, public and private, professional or otherwise, the same feeling of doing good for the sake of good, were ever conspicuous. I have heard an objection advanced against the title of a celebrated book, which is called 'Practical Piety.' You may as well, said the objector, talk of good morality, or of honest rectitude: all piety that deserves the epithet, necessarily must be practical. If this individual had known Mr. Taunton, he might have illustrated his meaning by an appeal to the god-like deeds of this great man. But time and the occasion forbid me to say more. Let us cherish his memory; and, to the best of our ability, follow his example. When shall the cause of humanity still find many supporters, although death has thus prematurely arrested the course of one who never at the close of any day could exclaim, with truth, *Diem perdidit*: This day I have lost.

In the City of London Lying-in Charity, for delivering poor Married Women at their own Houses, conducted by Mr. Greening, of Aldersgate Street, sixty-eight women have been delivered between the 1st January and 31st March; of these there were, natural labours, 62; preternatural, 2; complex, 2; instrumental, 2.

The two preternatural labours were, presentations of the feet; and as both feet presented, it was only necessary to accomplish the passage of the child through the pelvis, in the manner in which it would occupy the least possible space, by bringing the belly, breast, and face, along the sacro-iliac junction of one or other side; a method which is recommended by Dr. Hamilton, the present Professor of Midwifery in the University of Edinburgh.

Of the two complex cases, both were attended with uterine hæmorrhage, after the delivery of the child, from atony of the uterus.

One of the instrumental cases of delivery was that of a poor woman, residing at Hollywell Mount, Curtain Road, forty-two years of age, and her first lying-in. Labour came on in the commencement of January last: the pupil, engaged to attend her, was sent for; upon examination, the os uteri was found dilated only to the size of a shilling; her pains lingering, and little prospect of speedy delivery. At eight o'clock in the evening of the same day he left her, with strict orders, if any change should take place, to send for him again. Tuesday: much the same; a dose of opium was administered, which produced a little rest: towards evening her pains became more rapid: upon examination, the os uteri was not dilated sufficiently to ascertain the presentation of the child. Wednesday: it was found to be the breech; the membranes were ruptured, and hopes were entertained of a safe delivery; but the parts were become dry and rigid; which is generally the case with those women who are so far advanced in life, the child resting at the superior aperture of the pelvis, in a favourable position, with the back towards the abdomen of its mother, and the left hip opposite the right sacro-iliac junction: every thing was left to nature's efforts till the following Thursday, when my attendance was demanded: I found her greatly fatigued with slight pains, recurring at intervals of fifteen minutes: the position of the child as before described. These symptoms convinced me more speedy assistance was demanded; my hand was introduced *per vaginam*, and

placing two fingers between the thigh and body of the child, affording every assistance in a slow and cautious manner, taking care not to apply the least unnecessary force. After the lapse of some time, little was done in forwarding delivery; I questioned her if she had felt the child: the answer was in the negative. Being firmly persuaded it was dead, I was resolved to apply the blunt hook for the preservation of the mother's life. The feet were brought down, and it was with much difficulty the body of the child was extracted, in consequence of the great distention of air in the abdomen, (from putrefaction). My attention was next directed to the position the child bore in regard to the mother, and found it necessary to make a quarter turn, to bring the face into the hollow of the sacrum, and the occiput towards the pubes; the arms were next brought down; and, from the great exertion which the woman had undergone, it was deemed advisable to wait a short time before any other attempts were made, symptoms very alarming having supervened, viz. delirium, slight convulsions, and a weak pulse. Being persuaded no time was to be lost, the two fore-fingers of my left hand were introduced into the mouth of the child; and two of the others upon the occiput, and with great difficulty it was extracted, being of an unusually large size; and it had pressed greatly upon the soft parts. Having waited two hours for the expulsion of the placenta, I took hold of the cord in one hand, and putting it a little upon the stretch, a finger of my other was introduced into the vagina, but I could feel no placenta: the whole hand was next introduced into the uterus; it was found firmly adhering to its posterior part. Under these circumstances, it was agreed upon to separate it by slow degrees, until the whole mass was entirely removed and extracted, which was effected in less than a quarter of an hour.

Friday, ten P. M., the lochia had ceased; and, at intervals, an inability to retain her urine: a purge was given, and fomentations ordered to the region of the uterus.

Saturday: the aperient medicine having sufficiently operated, the inflammatory symptoms were considerably removed; but the incontinence of urine continuing, pointed out, but too certain, the injury which the bladder had undergone, from the effects of pressure; the catheter was, with some difficulty, introduced; the fomentations were ordered to be continued.

Sunday: upon visiting my patient this morning, I found her labouring under violent pain in the vagina, with a considerable discharge of matter, which, upon examination, was found proceeding from the partial separation of a slough.

Monday: greatly relieved; the slough thrown off; leaving a preternatural communication betwixt the bladder and vagina; nothing more transpired in the treatment worthy of comment. Her general health is considerably improved; but she is left to linger the remainder of her days, labouring under that direful disease, incontinence of urine; for which cases, as far as my knowledge will guide me, no radical remedy has yet been found. All that I have to regret, in this case, was the premature rupture of the membranes.

The second was one in which the head of the child was very much enlarged from hydrocephalus. The pupil in attendance sent for assistance about the beginning of the fourth day of labour, when it was punctured for the escape of the fluid; delivery afterwards was soon accomplished.

The number of children produced was sixty-eight. Thirty-seven boys; thirty-one girls.

There is a vacancy for one gentleman in the Institution.

## A METEOROLOGICAL TABLE,

(From the 21st of FEBRUARY to the 20th of MARCH, 1821.

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge.	Winds.	Weather.
	Max.	Min.	Max.	Min.			
21/29	85	29	85	44	27	NW..N.	1 Sun..
22/29	89	29	89	46	34	WSW.	1 Sun.. 3 Cloud..
23/29	87	29	80	48	25	W.N.	1 Sun.. 4 Starl..
24/29	77	29	75	39	27	W.Vble.	1 Sun...
25/29	77	29	76	43	29	03 W.Vble.	1 Cloud... 4 Starl.. & Show.
26/29	73	29	56	39	17	EbS.	1 Sn.. 2 Cl.. 3 Sp... 4 St....
27/29	83	29	14	80	17	SW.SSE.	1 Sun...
28/29	08	29	04	33	21	NE.	1 Cl.. 2 Sn.. & Sh. of Snow.
1/29	34	29	52	87	32	89 E.NE.	1 Snow....
2/29	43	29	87	45	34	ENE..SW.	1 Mist.. 2 Sun..
3/29	23	29	21	45	37	92 SE.	1 Rain...
4/29	54	29	42	44	31	08 ESE.	1 Rain...
5/29	56	29	89	37	29	ESE.	124 Cloud.. 3 Sun..
6/29	27	29	14	35	30	SE.	4 Mist....
7/29	89	29	79	49	34	37 SW.W..	14 Rain... 23 Sun..
8/29	08	28	93	51	35	06 SW.SE.	1 Sun.. 5 Rain.. 4 Moon..
9/29	95	28	97	61	36	21 SW.S.	1 Sun... 2 Cloud.. 3 Rain...
10/29	28	29	14	51	40	12 SW...	1 Sun... 3 Show...
11/29	42	29	42	49	35	WSW..	1 Sun...
12/29	51	29	48	50	37	07 SW..	1 Show.. 2 Sun...
13/29	70	29	56	54	33	01 SW..	1 Sun.. 3 Rain.. 4 Moon....
14/29	90	29	86	48	28	WbN..	1 Sun...
15/29	83	29	79	50	28	WbN..SW..	1 Sun...
16/29	73	29	58	48	33	WbN..	1 Sun...
17/29	12	28	89	50	36	09 SW..	1 Sun.. 4 Rain..
18/28	77	28	65	43	30	08 SW...W...	1 Sn.. & Show of Rain & Sno.
19/28	82	28	78	43	34	WNW...	1 Sun...
20/28	92	28	86	48	34	04 WNW...	1 Sun... 4 Show of Rain.

The quantity of rain during the month of February was 47.100ths of an inch.

## Observations on Diseases at Richmond.

The disorders under treatment were, Asthenia, Catarrhus, Colica, Cynanche tonsillaris, Cynanche trachealis, Diarrhoea, Dyspepsia, Erysipelas, Febris catarrhalis, Febris simplex, Gastrodynia, Impetigo, Menorrhagia, Obstipatio, Ophthalmia, Podagra, Phthisis pulmonalis, Scrofula, Urticaria, and Vertigo.

# THE METEOROLOGICAL JOURNAL,

From the 19th of FEBRUARY, to the 30th of MARCH, 1871.

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Moon.	Rain.	Therm.				Barom.				De Lacs Hygrom.		Winds.		Atmos. Variation.		
20			33	37	33	30	26	30	15	57	58	WNW	W	Clo.	Fine	Rain	
21		,06	36	40	33	30	20	30	24	60	60	NW	N	Clo.	Fine	Clo.	
22			36	39	31	30	31	30	33	59	57	NNE	W	Clo.	Fine	Clo.	
23			35	39	34	30	29	30	20	58	58	WSW	W	Clo.			
24			36	40	33	30	15	30	12	60	59	E	ENE	Fog	Clo.		
25			35	42	34	30	09	30	07	59	59	NE	NE	Fog	Clo.		
26			36	38	26	30	08	30	07	58	59	E	ENE	Clo.			
27			29	31	28	29	87	29	64	57	59	S	E	Fine			
28		,10	29	31	31	30	32	30	30	58	58	E	ENE	Sno.			
1			33	40	38	29	37	29	64	60	64	SE	S	Rain	Clo.	Clo.	
2			44	49	46	29	87	29	82	63	67	S	S	Fine	Rain		
3			49	55	48	29	77	29	67	69	71	SW	SW	Rain		Clo.	
4		,53	49	51	37	29	63	29	70	68	67	SW	W	Rain	Clo.		
5			34	40	33	30	06	30	02	65	61	NNE	SW	Clo.			
6			36	39	34	29	87	29	50	59	60	SSE	SSW	Clo.	Rain		
7		,29	36	40	34	29	60	29	53	61	65	W	W	Clo.	Rain		
8		,28	41	43	39	29	39	29	31	63	63	W	WSW	Fine		Rain	
9		,05	45	50	48	29	40	29	63	60	62	SW	SW	Fine	Sho.	Rain	
10		,10	49	55	46	29	69	29	75	63	60	SW	SW	Fine	Hail	Fine	
11			47	54	44	29	85	29	44	62	61	WSW	SSW	Fine			
12			43	51	44	29	96	30	01	60	59	SW	W	Clo.	Fine	Rain	
13			45	57	40	30	03	30	03	59	59	SW	W	Fine			
14		,05	43	53	37	30	08	30	32	60	55	NNE	NE	Fine			
15			40	51	37	30	36	30	36	51	52	SSW	S	Clo.	Fine		
16			39	53	39	30	30	30	20	50	55	E	S	Fog	Fine		
17			41	55	39	29	91	29	72	51	55	SW	SW	Clo.	Fine		
18			42	59	34	29	57	29	44	54	56	WNW	WNW	Fine	Stor.	Clo.	
19	☉	,20	39	51	37	29	25	29	31	55	53	NW	NW	Fine			

The quantity of rain fallen in February is 13-100ths.

The quantity of rain fallen in February is 13-100ths.

## A REGISTER OF DISEASES.

Between FEBRUARY 20th and MARCH 19th, 1821.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio .....	5		Furunculus .....	1	
Abscessio .....	5		Gastrodynia .....	8	
Amblyopia .....	1		Gonorrhœa <i>pura</i> .....	9	
Amenorrhœa .....	8		Hæmatemesis .....	4	
Anasarca .....	4	2	Hæmoptyœ .....	7	
Aphthæ <i>anginosa</i> .....	9		Hæmorrhoids .....	7	
Apoplexia .....	3	2	Hemiplegia .....	1	
Ascites .....	6	3	Hepatalgia .....	1	
Asthma .....	43	4	Hepatitis .....	13	2
Atrophia .....	1		Hernia .....	3	
Brouchiis <i>acutus</i> .....	13		Herpes <i>Zoster</i> .....	1	
— <i>chronica</i> .....	9		— <i>circinatus</i> .....	3	
Cardialgia .....	1		Hydrocele .....	1	
Carditis .....	1		Hydrocephalus .....	2	2
Catarrhus .....	48		Hydrothorax .....	5	3
Cephalalgia .....	14		Hysteria .....	4	
Cephalæa .....	5		Icterus .....	3	
Chlorosis .....	1		Impetigo <i>figurata</i> .....	2	
Chorea .....	7		Ischiæ .....	1	
Cholera .....	3		Ischuria .....	2	
Colica .....	8		Lateris <i>dolor</i> .....	2	
— <i>Pictonum</i> .....	2		Lepra .....	2	
Convulsio .....	8		Leucorrhœa .....	1	
Cynanche <i>Tonsillaris</i> .....	13		Mania .....	1	
— <i>maligna</i> .....	1		Melancholia .....	4	
— <i>Parotidea</i> .....	3		Menorrhagia .....	6	
Delirium <i>Tremens</i> .....	1	1	Morbi Infantiles* .....	11	2
Diabetes .....	1		— <i>Biliosi</i> * .....	24	
Diarrhœa .....	18		Nephralgia .....	1	
Dysenteria .....	7	2	Odontalgia .....	9	
Dyspepsia .....	18		Ophthalmia .....	11	
Dyspnœa .....	2		Otalgia .....	3	
Ecthyma .....	2		Palpitatio .....	1	
Eczema .....	1		Paralysis .....	3	1
Enteritis .....	2		Peripneumonia .....	16	
Entrodynia .....	2		Peritonitis .....	10	
Epilepsia .....	4	1	Pernio .....	4	
Epistaxis .....	4		Pertussis .....	6	
Erysipelas .....	10	1	Phlegmasia <i>dolens</i> .....	1	
Erythema <i>laze</i> .....	1		Phthisis <i>Pulmonalis</i> .....	22	11
Febris <i>Intermittent</i> .....	6		Pityriasis .....	2	
— <i>catarrhalis</i> .....	13		Pleuritis .....	20	
— <i>Typhus mitior</i> .....	10	1	Pleurodyne .....	1	
— <i>Typhus grav.</i> .....	1	1	Pneumonia .....	11	2
— <i>Synochus</i> .....	12		Podagra .....	3	
— <i>Puerpera</i> .....	4	1	Pompholyx <i>benignus</i> .....	1	
— <i>Remit. Infant.</i> .....	12		Prurigo <i>scutulata</i> .....	1	
Fistula .....	5		— <i>favosa</i> .....	2	
Fungus .....	1		Prolapsus .....	1	
			Prurigo <i>mitis</i> .....	1	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Prurigo senilis .....	2		Syphilis .....	11	
Psoriasis guttata .....	1		Tabes Mesenterica ....	3	1
gyrata .....	1		Tania .....	3	
Pyrosis .....	2		Tussis .....	4	
Raucedo .....	1		Vaccinia .....	19	
Rheuma acutus .....	30		Varicella .....	5	
chronicus .....	27		Variola .....	15	2
Scabies .....	45		Vermes .....	9	
Scarlatina simplex .....	7		Vertigo .....	15	
anginosa .....	5		Urticaria febrilis .....	1	
Scrofula .....	1				
Splenitis .....	1		Total of Cases .....	822	
Stricture .....	1		Total of Deaths .....		45
Sycosis menti .....	1				

\* *Morbé Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbé Billous*, such Complaints as are popularly termed *billous*, but cannot be accurately classed.

### Observations on Prevailing Diseases, &c.

CATARRHAL disorders have been prevalent, especially among children; and those encephalic affections which appear to arise principally from dentition, and which in their course come to implicate the tracheal and pulmonary organization, have proved frequent, and often troublesomely protracted.

We are much obliged to Mr. BURGESS, for the following cases, evincing the effects of the colchicum seeds; and we shall thank any of our reporters to relate their experience with respect to the Prussic acid.

A respected friend (Mr. BROWN, of Stamford Street,) lately reported most favourably on the powers of this acid, to the Medical Society in Bolt Court. He had tried it in a large number of pulmonary and other affections.

Our list is this month under the usual proportion, in consequence of a failure in one of the usual returns.

#### Cases in which Colchicum Seed Wine has been given.

THOMAS BUTLER, aged forty-one, by trade a nailmaker, residing at No. 23, Queen Street, Seven Dials, has been afflicted with rheumatism for seven years, been in two hospitals, and discharged without any material relief. Began, 7th of February, to take ʒj. of vin. sem. colchic. three times a day; and was so much better on the 21st, as to be able to walk in his room with a little assistance, before which time was scarcely able to move in his bed. He now takes the wine night and morning, and is able to go out, and occasionally calls on the Reporter, having but little pain.

CHRISTOPHER FAIRBROTHER, aged thirty-eight, a smith, resides at 35, Short's Gardens, has been subject to severe rheumatism several years, during which time, has scarcely been free from pain, been under the care of several medical men, without deriving any permanent relief. Took ʒj. of vin. sem. colchic. twice a day for several days; and, although he still is in pain, he declares he has had more ease since he has taken the wine than he has had for three years.

WILLIAM BATHAM, a smith, lives at 36, Great St. Andrew Street, has had rheumatism six months, been in two hospitals, and has been salivated, without

any decided benefit. Began to take the colchicum wine the 5th of March twice a day, and is now able to go to work. The other cases of rheumatism here reported, have been relieved by the usual remedies.

The Reporter, not being able to get a supply of the seeds, is indebted to Dr. WILLIAMS for a quart of the wine prepared by Mr. FITCH, of Ipswich.

## MONTHLY CATALOGUE OF BOOKS.

Illustrations of the Capital Operations of Surgery. By C. Bell, Esq., F.R.S. Part V. 4to. Coloured, price 21s. Plain, 15s.

Transactions of the Association of the Fellows and Licentiates of the King and Queen's College of Physicians in Ireland. Vol. 3.

A Manual of the Diseases of the Human Eye. Intended for Surgeons commencing Practice. From the best National and Foreign Works; and in particular those of Professor Beer; with the Observations of the Editor, Dr. Charles H. Weller. Berlin, 1819. Translated from the Original German Work, and illustrated with Cases and Observations. By George C. Montreath, M.D., Member of the Royal College of Surgeons, London, one of the Senior Surgeons of the Glasgow Royal Infirmary, &c. &c. Illustrated with Plates. 2 vols. 8vo. Price 30s.

The Accoucheur's Vade Mecum. By Joseph Hopkins, M.D. Seventh Edition, enlarged. 2 vols. 12mo. Price 10s.

A Manual of Toxicology; in which the Symptoms, Treatment, and Tests of the various Poisons, Mineral, Vegetable, and Animal, are concisely stated. To which are added, Directions for the Recovery of Persons in a State of Suspended Animation. 12mo. Price 1s. 6d.

A Geological Classification of Rocks; with Descriptive Synopses of the Species and Varieties, comprising the Elements of Practical Geology. By John Macculloch, M.D. 8vo. Price 21s.

## NOTICES TO CORRESPONDENTS.

*Communications have been received this month from J. R., Dr. Copeland, and the Author of the Essays on Medical Improvement.*

**Errata.**—Mr. Sandwith writes as follows:—"If the reviewer of last month will take the trouble to turn to page 18 of my book, he will find there is no such error as the one he mentions, but that a date, 'the 18th,' has escaped his observation."—As reviewers, we are always willing to stand corrected, if we are guilty of errors with respect to facts. Our expressed opinions we must, of course, abide by, as long as we retain them, heedless of the anger of irascible authors; and when Mr. S. talks of the notice of his book being "a pretended analysis," we can only smile and be silent.

In the paper of Dr. Scadamore, of last month, the word *forwarded* is printed for *favoured*.

In the Number for January, p. 129, last line of text, for *Summerfeld*, read *Summerford*.

\* \* \* Communications are requested to be addressed (post paid) to  
Messrs. T. and G. UNDERWOOD, 32, Fleet Street.

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PART I.

ORIGINAL COMMUNICATIONS.

I.

*On the Medical Profession.* By IGNOTUS.

No. 2.

"A Surgeon should have — a lion's heart — an eagle's eye  
and a lady's hand."

SUCH was the formidable dictum which I heard pronounced at the first surgical lecture I ever attended; and, although I then thought myself sufficiently weaned from that puerile deference which we are too apt to pay to the authority of a name, I could not help fancying at the moment, that there might be some truth in it, and that my lack-lustre eye, brawny fist, and chicken heart, would never raise me above a tooth-drawer, or a phlebotomist at the uttermost.

It appeared, however, a little singular to me, that the head, which I had heretofore considered the *primum mobile* of this microcosm of ours, had been totally omitted in this surgical definition, and its selection left to chance, to be made from whatever species of animal might first fall in her way; but I, with all humility, concluded, that my ideas upon the subject were quite Gothic; and that a Surgeon, like a poet, must be born, and not made.

After mixing, however, a little more with my professional brethren, and examining with some attention the hearts, eyes, and hands of the great luminaries of our Art, I began to think there might perhaps be more gingle than sense in the words

which have been quoted—that my notions respecting the head were not quite Utopian—and that good plain common sense, and ordinary talents, strengthened by exercise, and improved by cultivation, might, under favourable circumstances, make a very tolerable Surgeon, although he had not come into the world this trinitarian compound of eagle, lion, and woman. I observed, that one of the first Surgeons of his day (and his sun has not yet quite sunk beneath the horizon) had a much more limited sphere of vision than most of his neighbours—that the greatest practical Surgeon this country has perhaps ever produced, has certainly any other than a lady's hand; and that, as to a lion's heart—it would be the very worst endowment Nature could bestow:—in fact, I found that I had not only gradually laid aside my tooth-drawing, phlebotomizing notions, but had either so elevated myself, or depressed others, that a name lost much of its power over me; and I resisted the fiat of one, and disputed the authority of another, as though we were made of “one flesh and blood;” nay, I even said to myself, “Coward! as if man was not equal to man throughout the whole surface of the globe:” and that whenever it is not so, “man is false to himself, and betrays his own succours ten times, where Nature does it once.”——

Although no sensible man could possibly intend to assert, that the qualities before mentioned are indispensably essential towards forming a good Surgeon; and that, possessing them, nothing more is required; yet there are some who still tacitly acknowledge that they consider surgery too much what it originally was, and what its name implies—a *mere handicraft*—for upon what other ground is it that we publicly hear theory condemned as an *ignis fatuus*—a most ingenious clue to some of the anomalies of as mazy a disease as any in the nosological table (syphilis), anathematized in good set terms—a Student's library limited to *Fyfe's Anatomy*, the *London Dissector*, and the *Surgical Dictionary*—mind and intellect placed in the back-ground—the persevering industry of the uneducated plodder extolled beyond measure, and dry practical fact, with a constant stench of the dissecting room, made the alpha and omega.

I very well know that a stone must be extracted by something more than hypothesis, and that a theoretical Anatomist will cut but a sorry figure in the operating theatre. There is, however, no fear of surgery ever becoming too much sublimed, and evaporating in the airy regions of fancy and hypothesis—it is far more likely to revert to its original professors, than to be the favourite pursuit of the votaries of taste and learning; and why a man of education and science may not at the

same time be an excellent anatomist, and a bold operator, is to me quite enigmatical. Must a gentleman answer Hotspur's description of a fop? Will education teach him to fear dirtying his fingers in the pursuit of knowledge? Because he has a mind to theorize, must he necessarily undervalue facts? And if he happen to possess some slight acquaintance with general science and literature, and is enabled to converse upon other topics than broken bones, muscles, and blood-vessels, ought this to deteriorate him as a Surgeon? Will it be denied, that John Hunter, great as he was, might have been still greater, had his gigantic and truly masculine understanding been expanded by the genial influence of early and liberal cultivation? And do we appreciate the operation of tying the external iliac the less, because it was first performed by one, who I am sure (judging from myself) would boast, rather than be ashamed of the name theorist? Knowledge, 'tis true, is power; but the surgical Student need not fear becoming a despot; and if, upon the foundation demanded in other liberal professions, he raises a well compacted superstructure of theory and matter of fact, observation, and thorough practical anatomical knowledge, the erection will be complete in all its parts, which it never can be, if piled together of either the one or the other exclusively.

To many, I am aware, the foregoing observations will appear both needless and irrelevant. They will say, that having formed a man of straw, I have been amusing myself in endeavours to shake him to pieces, and, as his creator, have perhaps succeeded but badly in the work of annihilation; but some, and their numbers are by no means contemptible, will at once recognise in him the touches of a *superior artist*; and will only wonder at my temerity in daring to call in question a judgment so transcendent—an authority so high. I am, however, one of those perverse beings who are favourable to the "*Tot homines quot sententiæ*;" and whatever deference I may be inclined to show to the opinions of others, must be allowed to hold my own.

In a former communication I have stated that an Apothecary appeared to me, *ipso facto*, ineligible as a member of any profession; and that if practising upon a different principle, and laying aside that which constituted his ineligibility, viz. the dealing in medicine, he might legitimately belong to one; still some security was necessary, both to that profession and the public, that his qualifications were such as every profession has a right to expect. The same will also apply to the Surgeon; for although many would be equally well qualified, did no compulsion exist, yet we know that not a few

do but little credit to themselves, and still less profit to others, as it is. The interest and duty of every member of civilized society would lead him to be virtuous and honest; and many, no doubt, are so of their own free wills: but are laws the less necessary on this account? Is not the way to keep men honest, to endeavour to prevent them from stealing? And, in like manner, will not a profession be respectable in proportion to the jealousy with which it is guarded against the inroads of ignorance and incapacity?

In this respect, surgery appears to be left a great deal too much at the discretion of individuals, and opens a wider door for the admission of the uneducated and ignorant, than either of the other professions. A Physician must have spent (*bonâ fide*) three years at Edinburgh, or some other university, before he can become a licentiate of the College in London; (and none but a graduate at one of our own universities is admitted a fellow). He must have attended not only such lectures as are absolutely necessary in the acquirement of medical knowledge, but also many others on those collateral branches of science, which are as much the study of the gentleman, as the professional man. — “Walking the hospitals,” as it is termed, is not alone sufficient; he is to tarry at the bed-side of its wards, and benefit by that most useful of all teaching — clinical instruction — and, finally, he has not the liberty of putting M.D. to the end of his name by answering a few *catch* questions, which he has learnt by rote; but, after preparatory examinations, he is required to deliver a thesis, upon which he is examined by any, or all of the professors; and which goes forth to the world, his legitimate or adopted offspring, but for which he is in either case held equally responsible.

The bye-laws of the College of Surgeons simply require, “that to become a member a person shall not be under twenty-two years of age.” No mention is made of *any other qualification!!* You produce, it is true, (but by what law, I am ignorant) certificates of having attended two courses of anatomy and dissections — one of surgery — and I think half, but, to err on the right side, I will say a whole year’s attendance on the practice of some hospital, and you are then *examined* — by which I mean that, if a dresser to one of the examiners, he makes a point of standing God-father, and the baptism is, of course, a friendly one — if only a pupil, and you are willing to submit to the drudgery of pacing round the wards — keeping close at his elbow — assiduously picking up his spectacles — and listening, *arrectis auribus*, to his learned expositions, it is not much less so; and that if neither the one nor the other, you pass (if you fall into some hands) a very

fair, though by no means sufficiently comprehensive scrutiny—or if your unlucky stars direct you to the opposite table, you are asked a number of unmeaning *catch* questions, to which you must reply in one particular manner, or you go home with your money in your pocket. This, although made by one who is (from far other motives than either fear or falsehood) anonymous, is *well known* to be no exaggerated statement. I spent a much longer time than is usual with Students in general, at a hospital, yet I never knew the dresser to an examiner rejected. Many is the pupil who, though never absent on such an one's "going round" day, was at no other time to be found within the precincts of the hospital, and yet who has passed through the fiery ordeal with eclat, and sold his dissecting gown and scalpels as good as new. I would ask, whether much depth of anatomical knowledge is implied in being aware that the smallest bone in the body is contained in the ear? Whether a good Surgeon and an accurate Anatomist may not be ignorant of it? and whether a man may not have learnt it, like a parrot, from the "question and answer book," and yet be totally unacquainted with the theory of hearing? Is it not as likely that the pancreas found the curve of the duodenum convenient to repose its head in, as that the duodenum formed this curve for the express purpose of encompassing this portion of the pancreas?—and yet the latter is the answer *to be given* to this erudite question. Many a Student has been asked, which testicle hangs the lowest? if he says the right in lieu of the left, woe betide him: but I never yet heard of one who was questioned as to the reason of this provision of Nature. The peculiarities of the knee-joint is a favourite puzzle with one—it has several; but *his* peculiarity is the semilunar cartilages. The finger (I believe it must be the *fore-finger*) passed up the inferior cava, just as it pierces the diaphragm, where does it go to? has, ere now, staggered many a poor wight: in fact, I could multiply examples almost *ad infinitum*, and will therefore content myself with giving (as far as memory will enable) *verbatim* my own examination.—About thirty of us were huddled together like a pen of Smithfield sheep, in what is called the "sweating room." Hogarth would have made a fortune by us. One by one were we led forth; and each member of the Royal College was eagerly surrounded the moment he entered the room with his "blushing honours thick upon him"—and who examined you?—was he in a good humour?—what are *his questions*? poured in upon him from all quarters. At length my name was vociferated; and after making my bow to the master, and meeting a glance from one of the examiners

belonging to our hospital, which seemed to say, I know your face, but have not often seen you in my train; I was referred to a gentleman on his left hand, who asked the "contents of the abdomen"—"the course of the duodenum"—"why it makes its curve" (which I felt almost inclined to answer in the words of my uncle Toby, "God only knows")—"the situation of the colon, with respect to the omentum"—and the "operation for inguinal hernia"—he then scribbled something on a paper, and I paid my money, and issued forth a Surgeon!! Now I ask, whether this, which may, I suppose, be looked upon as a tolerably just average of examinations, is sufficient to enable these gentlemen conscientiously to say, "Know all men, &c. &c. We have *deliberately* examined, &c. &c. and have found him fit and capable to exercise the art and science of surgery?" I do not recollect the hour at which the ball opened; but I remember that *thirty* were, on this memorable evening, *deliberately* examined, and yet that we left the College time enough for half price at Drury Lane! Is it, then, a matter of wonder that names should be at the *same time* on the list of members of the Royal College of Surgeons, and placarded in large letters, as pledging the cure of "*a certain disease without mercury or confinement?*"—or that a modest nervous man, of real talent and accurate anatomical research, should be rejected? Such is the fact. There are several notoriously advertising quacks, who are members of the College; and there is at this moment a public lecturer on anatomy, in one of our largest provincial cities, and one highly esteemed and encouraged too, who was rejected not very long ago. Are not these evils which cry aloud for remedy? and they have not even the plea of necessary evils; for take such steps as shall exclude all but men of respectability and education from the Profession, and even that strong temptation, the *auri sacra fames*, will not induce them to prostitute a fair name by pasting it on walls, or blazoning it in a newspaper: and let the examination at the College be what it professes to be, a deliberate and equitable one, and modest merit will never be repulsed.

Having opened the book of the bye-laws of the Royal College, I shall take this opportunity of making a few observations upon them.—

What is the meaning and intention of the *oath* which each member takes on admission? and would it not be far better that a solemn compact of this kind should be entered into on the following day, than at a time when nine out of ten scarcely know whether they stand on their heads or their heels, and are ready to sign any thing?

Why did members, residing within the bills of mortality, pay more than others?

Of what avail is Section 6, regarding the *misconduct of members*? If the College has the power it there assumes, why is it not exercised upon those pests of society, and disgraces to the Profession, *advertising Quacks*; several of whom, as I before asserted, are members of the royal body?

By what law or right can a man be obliged to pay for ceasing to be any longer a member?

Does any man of ordinary judgment esteem the construing a few lines in Cæsar's Commentaries, "an examination as to proficiency in the Latin language"—for this is literally all that is done in compliance with No. 3. of Section 8.

Section 9 says, "The College will at all times protect, &c. &c. who shall be in danger of losing any of the rights, privileges, exemptions, or immunities, to which, as a member of the College, he is entitled."

Now, I would seriously ask, and it is a question which *demands* a reply, what *rights, privileges, exemptions or immunities*, a member of the College can boast of?—An unprincipled Quack may annoy him, by settling under his very nose—announcing himself at the same time to the public as a member of the same body, and yet remain unmolested, and, for aught I can discover, in the enjoyment of the same rights, privileges, &c. which are so pompously descanted upon.

We will now turn to Section 14, respecting the *Court of Assistants*. The first clause is, I think, a very wholesome one, as far as applies to Apothecaries; and I should be inclined not only to exclude such from the courts, but also from the College altogether: they are interlopers. By the second clause it appears that the Court of Assistants is a self-elected body; and, by the subsequent sections, that it is a complete *imperium in imperio*:—a *confirmed oligarchy*; for from it are chosen—the master—governors—examiners—treasurers—auditors—and curators—so that I know not how many (I believe I may say) *thousands*, are under the government of twenty-one individuals, in whose appointment they have had no voice—over whom, neither they, nor any one else, has any control—and whom they have each individually been bound by *oath* to obey. In fact, so far from having any power or influence, these thousands are under a sacred obligation to pay whatever contributions this self-constituted aristocracy may demand; and, from the foundation of the College to the present moment, they know just as much about the manner in which such contributions have been applied, as the supporters of their arms, Machaon and Podalirius; and are, in truth, as complete non-entities. What should we say to a body politic thus constituted?

In Section 22, I find that an examiner receives half a guinea at the opening, and the same sum at the adjournment, of each court, and his proportion of five guineas from each student examined. The number of examiners, including the master and governors, is ten; so that, on the evening on which I passed, each individual actually received *sixteen guineas!!!* — for what?

I have not an opportunity of referring to the average number of new members annually; but from this specimen it may be fairly inferred, that *it is no bad thing to be an examiner!* The labourer is certainly worthy of his hire; but let the hire be proportionate to the labour.

The *Museum*, the greatest ornament of the College, is mentioned in Section 34. It appears, however, to me to be very much like a candle hidden under a bushel; part of the year it is closed; and the extent of a *member's privilege*, when it is open, is to walk round it on certain days, at a certain hour, and for a limited period, with others, professional and non-professional, and at the heels of its conservator, who acts as showman to the lions. Is this the way to render it useful to science? Is this one of our boasted privileges? Contrast it with the liberal footing upon which similar establishments are conducted in Paris—and blush.

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As these remarks have arisen almost insensibly, and have been made without forethought, they must be considered as digressive from the subject which I had previously treated upon; and if, in any instance, I have made use of a harsh expression, or a vague and erroneous assertion, it has arisen from ignorance—not intention; and I shall most willingly submit to reproof, and acknowledge my fault. The subject, however, requires more grave and deliberate attention than I am either inclined or able to give it; and should this call towards it the observation of others better qualified, it will, in my opinion, have had a good effect:—that, both in this and my former remarks, I have been uninfluenced by either party or personal motives, I need not aver; for few are inclined to place much faith in the assertions of a writer without a name; but if the truth has been asserted, and correct opinions held, it matters not that the source is nameless.

[We admit this upon the same principle as we did the last communication of *IGNOTUS*; and we are equally ready to publish a condemnation of the too facile system even of *Physician-making*. The present writer is not correct in his antithetical assumption, that a legalized Physician *must necessarily* be a man of education.—EDIT.]

## II.

MR. COLLINGWOOD'S *Reply to MR. SHILLITO*.

IN the Publication of my Essays on Typhus and Puerperal Fevers, &c.\* my chief intentions were to exhibit my practice and observations on the use of saline purgatives and cold affusions, &c. in typhus fever, as it occurred epidemic at Sunderland, in 1818-19; and on the use of saline purgatives and warm injections into the uterus in certain puerperal affections. The beneficial effects which resulted from their use in those diseases, led me to consider them as most valuable and effectual remedies, and without deprecating the judicious employment of venesection, I, from my own observation, and that of others, ventured to condemn its indiscriminate use in every case of typhus, and also its employment in pure puerperal fever, under particular circumstances; and I was not a little surprised to find my papers attacked in the last Number of this Journal, by Mr. Shillito, of Putney, a gentleman who has not failed on the occasion to favour the Profession with a minute account of his *superior* practice in typhus fever, and most *liberally* condemned a practice which, it appears, he has never fairly tried. It is not my intention to enter into a controversial dispute with Mr. Shillito on the comparative merits of our differing modes of treatment, as no conversion, nor good purpose, is likely to result from such an investigation, without an extended and impartial trial of each other's favourite remedies. Indeed, scientific pursuits are so often degraded by selfish passions and the spirit of party, that literary disputations are too frequently employed for the purpose of calumny and detraction; and by praising friends and blaming rivals, the progress of the arts and sciences, and the improvement of man, are mightily retarded. But as Mr. Shillito has animadverted upon several parts of my papers, I feel myself called upon to notice a few of these, and to vindicate my practice and opinions on my own experience, and occasional references to that of others, in order that his animadversions may not make a wrong impression on the mind of the Faculty, who will, I hope, not look for that minuteness and perspicuity in this reply, so apparent in Mr. Shillito's paper, when they consider that that gentleman has had a period of fifteen months to contemplate my Essay on Typhus, nearly three months that on Puerperal Fever, and to collect and place his objec-

\* MEDICAL REPOSITORY, Vols. XII. and XV.

tions in battle array against me. Whereas, from unavoidable circumstances, I have been unable to assign more than a part of two days to peruse and answer his remarks. The first thing which Mr. Shillito notices, is where I say, that "typhus fever may be cured solely by the use of saline purgatives, and occasionally the cold affusions, which is a much more simple and safe method of cure than any I am acquainted with—answering every purpose for which blood-letting has been recommended, without being followed by its debilitating effects, &c.," which is to be understood as liable to the remark I have made in another part of my essay, viz. "that I have no doubt, in some cases, particularly in robust habits, blood-letting, employed early in the disease, may sometimes be useful;" and I think that the seventy-seven cases, successfully treated by saline purgatives and occasional cold affusions, are sufficient to lead me to the inference. In visceral inflammation there can be little doubt of the propriety of early venesection. In the advanced stage of the fever, however, when this occurs, topical blood-letting might be preferable; but of this I cannot speak with decision, as local determination very rarely occurred, in my patients, in the course of the disease; which I attribute, in a great measure, to the early and frequent use of saline purgatives. Dr. Stoker remarks\*, "he has often witnessed, that detraction of blood, sufficient to remove the causes of excitement, produced irretrievable injury, by increasing the malignancy of the fever." Of the less debilitating effects of saline purgatives, in most cases of typhus fever, few will doubt. The next part which Mr. Shillito reverts to, is "that the indiscriminate use of venesection, as followed by some Practitioners in every case of typhus fever, points out a probable reason why it has not been attended with equal success as my method of treatment;" and I think that most of the advocates for venesection will admit that many cases occur in which it would be highly detrimental. Dr. O'Brien says†, "there is every reason to fear that an extravagant and injudicious use of this remedy may ultimately bring it into disrepute." Mr. Shillito observes, that my plan of treatment was not infallible, as I lost three out of eighty patients, under my favourite practice; and in these cases Mr. S. seems to hint that his favourite mode of treatment might have been more successful. One of the patients had been weakened by starvation and previous disease; another had recently recovered from pneumonia, treated by copious venesection;

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\* Dr. Stoker's Report of the Fever Hospital, Dublin, p. 463.

† Dr. O'Brien's Report of the Sick Poor Institution, Dublin, p. 490.

and the third was a young lady, aged eleven, of a delicate constitution, whom I attended, (latterly) with an eminent Physician of this town, Dr. Clanny, and who expressed himself fully satisfied with the mode of treatment I had previously pursued. Mr. Shillito next notices the following passages in my Essay on Typhus, that "the symptoms of debility which are usually so conspicuous in fever, are but apparent, and that they did not prevent me from using saline purgatives, as I always found them rather to increase the patient's strength than induce debility." Mr. Hunter, and several other eminent men, have remarked, that in febrile complaints they lower action without diminishing strength; and that hence they operate beneficially in inflammation, much upon the same principle as bleeding, without producing such lasting weakness as is the consequence of the latter, which perfectly accords with what I have advanced. Adverting to my Essay on Puerperal Fever, &c. Mr. Shillito says he has observed that, in the usual irritable state of the stomach in some puerperal affections, saline purgatives could not be retained. I have stated, that when this occurred, it was successfully combated by the effervescing draughts; and Dr. Heberden has remarked, "that the solution of the sulphate of magnesia, though it has a disagreeable taste, will often be retained upon the stomach, when more grateful liquors are rejected," which has also been noticed by Sir John Pringle; and I have myself frequently observed the same. In my case of Mrs. F. (of puerperal fever), noticed by Mr. Shillito, the first cathartic which was given, did not operate. She was bled to the extent of eighteen ounces, but did not appear to experience any relief. Frequent purgatives, warm injections, and fomentations, were used;—and to these I attributed her recovery.

The form of the syringe which I used for injecting the uterus, cannot here be properly described without a plate. It is adapted to the anatomy of the parts to which it is to be applied, and seldom produces any of those inconveniencies which Mr. Shillito seems to dread. Indeed, Dr. Shath\* has published several very interesting puerperal cases, where a tube and bladder were used for that purpose, with ease and safety, even so late as the fourteenth day after delivery. The temperature of the injections, as stated in my paper, is a mistake, in the hurry of transcribing: it is certainly too low, as must appear obvious from a knowledge of the intentions for which the injections were exhibited. Mr. Shillito adverts to venesection in puerperal fever. I believe it is generally

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\* London Medical and Physical Journal, vol. xxxvi.

admitted by eminent writers, that general blood-letting in pure puerperal fever, as occurring in hospitals, and from contagion in private practice, where there is no suppression of the lochia, and when the disease has existed for even twenty-four hours, tends only to hasten the patient's dissolution. Dr. Gordon\*, who has written upon the subject, states, that "when the patient has been ill for a longer space than twenty-four hours, before he was sent for, he generally found that the disease was no longer in the power of art." Professor Hamilton's opinion on this subject, I have already quoted in my Essay. I think I have now noticed Mr. Shillito's principal objections. His witty quotation from Juvenal may, perhaps, with great propriety, be given in retort—as it appears to be his intention to knock down every important point of my practice which he thinks may come in competition with the idolatry of "the gods whom he adores;" for he has candidly acknowledged, that, had I not become a partisan in a question of such high importance as opposing the views of those eminent Physicians, whose theory and practice of fever (as he says) are doing so much honour to the age, he should not have ventured any observations on my essays; from which it will appear, that an uproar has been produced among the craftsmen at Ephesus to oppose a new species of knowledge, which they think might interfere with the profits of their trade†. If Mr. Shillito and his associates have found venesection so highly useful in typhus and puerperal fevers, they are certainly warranted to follow it; but I hope they will not pass condemnation (on my practice) without trial, unless urged by a dread of the downfall of that upon which they have attempted to build their fame. I have advanced nothing against the judicious employment of blood-letting. No doubt all who do employ it think it done judiciously; but of the fallacy of this, many eminent Practitioners have been witnesses. An indiscriminate use of that remedy being all that I have condemned, Mr. Shillito's principal objections on that head must fall to the ground. The saline purgatives and cold affusions in the cure of typhus fever, have, as general remedies, this most decided advantage over venesection, that in almost every case and stage of the disease they can be employed with perfect safety. Whereas general blood-letting cannot, at least I would not employ, nor recommend it as an equally simple, safe, and effectual remedy. It might

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\* Gordon on Puerperal Fever, p. 14.

† Acts, chapter xix. verse 23, &c.

be considered, that as Mr. Shillito has made so free with my practice and observations, I should in return scrutinize his mode of treatment, which, however, as already mentioned, is not my intention, not having had sufficient experience of the abstraction of blood under the circumstances he mentions; as in his case of Mr. Moody, where six ounces of blood, in a semi-dissolved state, were taken from the arm on the fourteenth day of the disease (*often a critical day*), under circumstances of involuntary discharge of urine, low muttering delirium, &c. In this case wine was at the same time exhibited, which Mr. Shillito considers perfectly compatible with bleeding in typhus fever, as the disease advances! In those cases which I have recorded, I rarely ordered wine, or other stimulants, until the approach to convalescence: I was led to prefer brisk bottled porter, as a cheap substitute for wine (amongst the poor), on the recommendation of my learned and esteemed friend, Dr. Stephen Pemberton; and I generally found that it was more relished, and less frequently ejected from the stomach. I am well aware, that what I have said in reply to Mr. Shillito is not sufficient to answer all that gentleman's observations on my essays, for which I hope the reasons already assigned will be deemed a competent apology. Mr. Shillito's well-written paper, of twelve pages, will not, however, in my opinion, have much effect in invalidating my practice, nor in establishing his own: I must therefore still adhere to my former conclusion, that "typhus fever may be cured by saline purgatives, and occasional cold affusions, &c. &c.;" and I think it is not improbable, but that an indiscriminate use of venesection may ultimately bring it into disrepute; a fate which it has more than once before undergone, as appears from the history of physic.

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### III.

#### *On the Application of Blisters in very Young Children.*

By GEORGE GREGORY, M.D. London.

HAVING, in the course of the last winter, had occasion to observe several instances in which the application of blisters to infants and very young children was attended with much inconvenience, and even danger, I am induced to transmit the following observations; and I indulge the hope that they may prove of some service, particularly to the junior members of the Profession.

The frequency of acute inflammatory affections in infants has been long acknowledged, while at the same time it has

been a matter of general observation and regret, that the smallness of the veins of the arm at an early period of life, precludes us, in a large proportion of cases, from our most powerful means of subduing that formidable state of disease. Practitioners have therefore had recourse to different substitutes for general blood-letting. Leeches, cupping, digitalis, and tartarized antimony, are those most frequently resorted to; but the employment of blisters is, at least, equally general. That blisters are possessed of very decided power in subduing inflammatory diseases in children; and that they are frequently, nay, most commonly applied without producing any local or general inconvenience, must, I think, be admitted. It is equally important, however, to be aware, that in many instances they have occasioned unpleasant symptoms; and my object in the present communication is to point out what these are, in what description of cases they are most likely to occur, and by what means they may be best prevented, or, if occurring, removed.

These remarks bear no relation to the questions which have so often been agitated, to what extent, and in what manner, blisters prove useful in inflammatory disease? It is generally admitted, that they are chiefly serviceable in the latter stages of the complaint, and after the violence of the symptoms has been subdued by other and more appropriate means. It has therefore been argued by some, that they are applied only when the disease itself is yielding; and that they might, consequently, be dispensed with, without injury to the patient. I have little doubt that this view of the question is, in many instances, perfectly correct; and though I believe it to be inapplicable as a general rule of practice, yet it surely illustrates the position which I would wish to enforce, that the indiscriminate employment of blisters in the diseases of children, upon the mere ground of the presence of inflammatory action, is improper; and that their application is not on a par with the injunction of low diet, or a laxative, or a pediluvium; but that it must, in each case, be as maturely weighed as the propriety of venesection, leeches, or cupping.

I. In the first place, then, I would remark, that the application of a blister to the skin of infants and young children is often followed by a high degree of inflammation, spreading considerably beyond the surface occupied by the plaster. So high, indeed, will the inflammation run in some instances, that sloughing and gangrene of the parts follow; and this is the first way in which I have seen blisters prove fatal. The skin at this age is very tender, and irritable, and loaded with blood-vessels; and this would of itself be sufficient to

account for the fact; but it is probably dependent also on some *peculiarity of constitution*.

2. Even if the blister, on its first application, does not produce that high degree of local irritation which is here supposed, it will occasionally be found that much inconvenience attends it in its subsequent stages. The blister refuses to heal, under any system of management; a copious discharge of purulent matter at length takes place from it. In some places ulceration eats deeply into the substance of the cutis vera. At other times fungous granulations shoot out from the surface of the sore. When this state of things has continued for any length of time (a fortnight, for instance, or three weeks), the constitution begins to suffer; the pulse becomes quick; the tongue dry; there is marasmus, and restlessness, and, in bad cases, convulsions, in which the child dies. Here it appears as if the *long-continued discharge* was the direct cause of the mischief. I am fully aware that a discharge, to at least an equal extent, and for a much longer time, is occasionally kept up by Surgeons with the view of combating local disease in a joint; and that similar symptoms are not found to occur, so as to deter them from the practice in these cases.

I am unable to reconcile this apparent contradiction, unless by supposing that it is chiefly in feverish and inflammatory states of the system, where the skin is hot and dry, that these unpleasant effects are likely to be experienced. Several circumstances, however, induce me to think, that such a supposition is not altogether gratuitous. In all the worse cases of the kind which have fallen under my notice, such a state of system did really exist; but at the same time I am by no means confident, that in a purely chronic disease, or even in a healthy state of body, similar symptoms might not be expected.

That, in a large proportion of cases, they are the result of neglect or mismanagement, I am perfectly ready to admit; and, consequently, that they may be prevented or obviated; but I am inclined also to believe, that occasionally they will occur, notwithstanding all the care of the Practitioner. The *necessity* of attention on his part is in either case equally apparent; and I would strongly urge the propriety of his occasionally examining the state of the blistered surface *in every case*, and not trusting the dressing of it to the nurse, as is too frequently practised.

The manner of obviating the bad effects of blisters in young children, may be thus briefly stated. They should, in the first place, never be applied where the symptoms are sufficiently urgent to demand the evacuation of blood.

Bleeding at the arm, or, if that is impossible, the application of cupping-glasses, or leeches, should never be omitted, under the hope that the application of a blister will supersede their necessity.

I cannot lose this opportunity of expressing my persuasion of the great utility of a small bleeding in those feverish attacks of children, which, if neglected, or checked only by slighter measures, frequently terminate in effusion on the brain. A timely venesection then will often preclude the necessity of having recourse to a blister; and I think I have said enough to show that much more inconvenience, and fully as much danger, results from the application of a blister, as from the puncture of a lancet, or the bites of leeches.

If a blister is, after all, considered to be indispensable, as I well know it will be found to be in many cases, the bad effects which I have described may often be prevented, by applying it of *moderate* size, and allowing it to remain on for only a *moderate* space of time. This will vary in different children. Frequently the blister may be taken off at the end of five hours; but it should seldom or never be continued on for more than ten. Attention should also be paid to the *healing* of the blister. If mild applications are found ineffectual, they should be changed for cooling lotions, or, what answers better in most cases, adhesive plaster. Dry powders appear to me to be improper. Where the granulations are superabundant, the surface should be touched with nitras-argenti, which is certainly preferable to blue stone. The pimples that frequently form around the blistered surface during the process of healing, require also a share of attention; for want of which, I have frequently seen them degenerate into ulcers, and occasion a degree of irritation not inferior to that of the blister itself.

#### IV.

*Case of Hydatids of the Liver.* By G. C. TRIMNELL,  
High Wycombe, Bucks.

[Communicated by Dr. GREGORY.]

A FEMALE, twenty-four years of age, and of plethoric habit, had been subject from birth to occasional slight pain in the right side. She had latterly noticed some degree of fulness of the same side; but she could sleep more readily and comfortably upon it than upon the other. On the 21st of October, 1820, she felt an increase of pain in the side, but did not apply for medical assistance until the 26th, when she was visited by Mr. Rose, of this place. He found her

jaundiced, with constipated bowels, high-coloured urine, and pain in the region of the liver, on pressure. A few days afterwards, feverish symptoms and continual pain supervened, which continued to increase for a month, notwithstanding the employment of those active measures which the nature of the symptoms appeared to render necessary—bleeding, blistering, purging, and the exhibition of mercurials.

Rigors occurred on the 21st of November, at which time the pulse was 120, small and thready. A fulness below the ribs was now perceptible, soft, and giving the feeling of a fluid deep-seated. The part was still tender on pressure, and every symptom indicated the formation of matter. The mercury was discontinued, and a cataplasm applied, under which treatment the tumour gradually increased, and fluctuation became more and more distinct.

The patient's general health was declining; and it became a question whether it would be better (in the event of her surviving, of which but little hopes were entertained) to suffer the abscess to break spontaneously, or to open it. In consultation, it was determined to adopt the latter alternative, and it was carried into effect, December 2, by Mr. Rose, in the following manner:—An abscess lancet was first thrust in, which, however, did not reach the matter. A trocar was substituted, when only a few drops of pus passed through the canula. A probe being introduced, it was found that the obstruction was occasioned by the cyst of an hydatid. This being removed, pus and hydatids followed in large quantities. Some of the hydatids, of the size of large peas, passed through entire; but the greater part were obliged to be broken down with a director. During the operation, the patient was so exhausted, that it became necessary to support her by cordials. It was obvious that the whole contents of the abscess were not, and could not be expelled. It required some pressure to force out the hydatids, and this caused excruciating pain. The pus and hydatids together, discharged at this time, weighed two pounds. The last portions consisted of pus, mixed with some bile.

After the operation, the patient expressed herself much relieved in her breathing, which had been for some time greatly oppressed. To favour the escape of the hydatids, the canula of the trocar was left in at first; but as it gave her much pain, it was withdrawn, and a piece of bougie substituted, under the idea that it would produce less irritation. The opening became frequently blocked up with hydatids, and it was necessary to keep it free by the use of a probe. The punctured orifice was, however, much irritated by these

means; so that, after a short time, they were altogether laid aside, and poultices applied, upon which, when removed, a few hydatid cysts were occasionally observed.

December 8th.—The tumour increases. There is more heat of skin. Pulse 120. A shaking fit, without any sensation of cold.

14th.—The tumour is now fully as large as before the opening was made. On this day vomiting first occurred.

15th.—It is proposed to enlarge the opening, but the patient will not submit to it.

16th.—During a fit of vomiting, the opening, which had nearly closed, gave way, and about a teacupful of hydatids escaped.

On the following day, during another fit of vomiting, nearly a pint more were discharged.

18th.—The opening was enlarged about three quarters of an inch, by a curved bistoury, guided by a director. The hydatids and pus discharged on this and the succeeding day weighed nearly two pounds and a half. Along with them there came away a little bile, and a small portion of what appeared to be liver, in a sphacelated state. The vomiting now ceased.

30th.—The opening being disposed to close, a piece of bougie was introduced three times a day. Some discharge generally took place on withdrawing it, but very little pain was now occasioned by pressure. The patient's health was about this time so much recovered, that if the formation of the hydatids could have been prevented, we should have had great hopes of her ultimate recovery; but their incredibly quick and continued formation precluded our indulging any sanguine expectations.

January 10, 1821.—The opening being still disposed to close, a piece of sponge tent was introduced. The patient's appetite soon after began to fail, and she died, completely exhausted, January 22, seven weeks after the opening of the abscess, and three months from the first attack of the disease.

The whole quantity of hydatids, pus, and bile, discharged in this case, was calculated to be as much as sixteen pints. The hydatids were of different sizes and colours; some had a yellow tinge; while others were transparent and colourless. In size they varied from that of a small pea to a pigeon's egg; at least there was reason to believe them to be of that size, for the opening was not sufficient to allow the largest to be expelled whole. Can any thing be suggested which might have been likely to prevent their formation? As nothing of the kind has ever occurred to myself, the relation of this case can only be considered as interesting to the pathologist; but

to him it may have some value ; and I have therefore ventured to submit the details of it to the notice of the Profession. It fell under my observation, in my capacity of assistant to Mr. Rose, from whose notes I have been able to give a statement of the above case, who greatly regretted the objection made by the friends to an examination of the body, which would have rendered the detail of it more interesting and complete.

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## V.

*Case of Tic Douloureux, successfully treated by Carbonate of Iron.* By HARRY WILLIAM CARTER, M.D., Physician to the General Kent and Canterbury Hospital.

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THE following case may perhaps be deemed not unworthy a place in the REPOSITORY, since it affords a well-marked example of one of the most painful chronic diseases to which the human frame is liable, and which has but too often baffled the skill of the Physician ; and as its event speaks strongly in favour of the plan of treatment recently proposed by Dr. Hutchinson.

Thomas Wanstall, ætat. fifty-eight, a person who had, till within the last few years, led an intemperate life, was admitted an out-patient of the General Kent and Canterbury Hospital, December 22, 1820. He stated, that about the middle of October last he was seized by a most violent pain, commencing at the upper jaw, and extending in a short time over the whole of the left side of the face to the temple. Conceiving that his malady was nothing more than toothach, he had one of the molares extracted, which was extremely decayed, but the removal of which gave him no relief. A second tooth was drawn, which proved to be sound ; and subsequently a third, of the lower jaw ; still the pain continued as severe as ever. He was never quite free from it ; but several times a day he had a paroxysm so violent as to make him roll about upon his bed, and to incapacitate him from giving any description of his sufferings. At night he got no rest, owing to the pain and the beating at the temples, which, to use his own expression, *was exactly like the ticking of a watch*. Several blisters had been applied, lotions had been used, and various medicines had been taken, but nothing had appeared to afford him the least relief, excepting opium, the good effect of which was transient.

When the man presented himself at the hospital, he was suffering severely. His head was wrapped up, for he could not endure the least air to blow upon the affected parts. He was in a state of general debility ; pulse feeble ; tongue foul ; bowels costive, probably owing to the opium which he had

taken. I prescribed decoction of bark, with ammoniated tincture of guaiacum, every three hours, and ten grains of Dover's powder at night, and a laxative to be taken as soon as possible.

This plan was persisted in for three weeks, with evident advantage to the patient's general health, but without the pain of the face being in the least degree mitigated.

On the 13th of January he began taking a scruple of the carbonate of iron, every three hours, made into an electuary, with confectio aromat. and syrup.

26th.—Had been quite free from pain for four days. His appearance was much improved, and he complained of nothing but numbness of the side of the face.

February 3d.—No recurrence of pain. Iron discontinued. Ordered to take decoction of bark, with the tincture, spirit of lavender, and aromatic confection, thrice a day.

8th.—Numbness nearly gone. No return of pain. He remained perfectly well.

## VI.

*Cases of Chronic Inflammation of the Peritonæum; with Remarks on the Pathology and Connexions of that Disease, with other Ailments; and on its Treatment.* By JAMES COPLAND, M.D., Walworth.

THE two following cases of chronic inflammation of the peritonæum have lately fallen under my observation. They deserve preservation, chiefly from the *post mortem* appearances which they exhibited. Their history in the early stages is necessarily imperfect, in consequence of the individuals having neglected medical aid, until the disease had gone on to the production of organic derangement beyond the reach of medicinal agents.

*Case 1.*—April 17, 1820. I was requested by Mr. Boast, Surgeon, Kent Road, to visit a man, about the middle age, who had just come under his care. He had been five months ill, but had not subjected himself to any active treatment. He was in the last stage of marasmus; abdomen large and hard; no fluctuation; considerable heat and pain in that cavity, especially when pressed, but not confined to any particular part of it; bowels had been lately sufficiently moved; pulse 120, small and weak; tongue covered by a thick brown fur, and parched; considerable thirst; no appetite; occasional nausea; urine voided frequently, and in small quantity. We considered the disease to be chronic peritonæal inflammation, in its most advanced stage; and that no treatment could then prove of any utility. A blister, however, was recommended to be applied over the abdomen;

and digitalis, with other remedies, were ordered, with emollients, in order to counteract the irritating effects of the cantharides on the urinary organs.

18th.—Blister rose well; bowels comfortable; pulse 123; nearly the same as yesterday in other respects.

19th.—Considerably worse; facies hippocratica; low delirium; pulse 130, and weak; pain in the abdomen less severe, but when pressed, the fæces escape; apparently sinking.

20th.—Died in the morning. Obtained permission to examine the body, which was done the following morning at seven, in my presence, by Messrs. Boast and Denton.

*Dissection.*—On opening the thorax, the lungs were found pretty sound, excepting two or three incipient tubercles. The pleuræ covering the left lobe, and the costæ were adherent by means of cellular substance, indicating the adhesion not to be of recent occurrence. The same form of adhesion also existed between the left and anterior portion of the pericardium and pleura pulmonalis; the pericardium was in every other respect natural in appearance; the heart perfectly so.

Upon cutting into the abdomen, we found the great arch of the stomach, the anterior edge of the liver, the spleen, the transverse and sigmoid flexures of the colon, and the greater part of the small intestines, with the omentum, completely agglutinated to one another, and to the peritonæum covering the abdominal parietes, so as to form, with it, one compact, yet pulpy mass. Although prepared, by the unequivocal nature of the symptoms, to find diseased peritonæum with adhesions; yet we were surprised at its extent; the convolutions of the intestines could be only unravelled, or their different portions recognised, by cutting into them; the whole peritonæal sac, with the exception of half a hand's breadth above the pubis, was obliterated by this mass of adhesion, in the middle of which the omentum could, with difficulty, be recognised, and then only by its closer texture, which, with the mesentery, and the rest of the peritonæum, when a transverse slice of the accreted viscera had been taken, appeared denser, of a lighter shade of colour, and every where greatly thickened. The thickening of this membrane varied from one-sixth to one-fourth of an inch. The coagulated lymph surrounding the peritonæum, and agglutinating the viscera, was, in some places, upwards of half an inch in thickness, of a yellowish brown colour, and of a firm pulpy consistence. There was no appearance of tubercles, or any analogous structure in any part of the accreted membrane. In some places, the coagulated lymph was traversed

in various directions by a substance more completely organized, and resembling a cellular tissue. In the small remains of peritonæal sac there was no fluid, and the organized effusion or lymph, covering the thickened peritonæum, was nearly of the same appearance there, as in the other parts. The blood vessels running into those accretions were not very observable. The cellular substance, connecting the peritonæal covering to the muscular coat of the intestines, as well as to the abdominal parietes, appeared rather thickened and more vascular. The stomach, small and great intestines, which could only be recognised when laid open, were quite natural in their internal structure. The mesenteric glands were enlarged to the size of a nutmeg. The liver was perfectly healthy in its internal structure; and on its surfaces no diseased appearances were seen, excepting the adhesions at its anterior edges already alluded to. The other viscera were natural.

*Case 2.*—I was requested by a friend to visit the subject of this case, and found him in the advanced stage of the disease.

—Irvine, aged thirty-seven, a shoemaker by trade, had been frequently affected severely by rheumatism, for several years. That disease was principally seated in the back and lower extremities, and was sometimes so severe in its attacks, as to prevent him from prosecuting his business. His habit of body has been always spare, and his temperament apparently partakes most of the irritable character.

His present ailment commenced about four months ago, during which period he has been but little confined to his bed, until lately. Through the early period of the disease he has occasionally wrought at his business,

Since the invasion of the present disease, he has had no return of the rheumatic pains. He attributes his complaints to sitting in wet clothes; after which, he soon became afflicted with sharp pains in the abdomen. He considered them to be of a colicky nature, and has occasionally resorted to various nostrums, according to the recommendations of his friends. His bowels, through the course of the disease, have been capricious, sometimes rather open, but more generally costive, but they have generally acted readily from a dose of salts.

The following is the state of his symptoms at the time of my first visit, December 24th, 1820.—He complains of great weight and uneasiness in the abdomen, with occasional lancinating pains in different situations of the abdominal cavity, shooting in various directions, and sometimes extending to the parietes; abdomen tumid, of rather irregular

hardness, but giving no distinct signs of fluctuation; pressure greatly augments the pain, but the weight of the bed-clothes are borne without inconvenience; the body much emaciated; countenance hippocratic; tongue covered by a thick yellowish fur; appetite greatly impaired; stomach very irritable, and frequently ejecting the food that is occasionally taken; thirst considerable; bowels rather costive; pulse 106; small and hard; urine made in small quantity, and high coloured, and is attended with considerable pain at the glans penis, especially after voiding the last drops of this fluid.

This statement of my patient's case will readily show that the disease had then arrived at the last stage of structural derangement, and much advantage could not be expected from the most judicious treatment.

I prescribed, however, cupping on the abdomen, over the part most pained, and a pustular eruption was afterwards kept up for some time, by rubbing the tartar emetic ointment over the whole abdomen. This mode of producing derivation was preferred to the use of blisters, on account of the irritable state of the urinary organs. Mercurial purgatives were also given, and continued for some time, as alteratives, in combination with digitalis. The vinum colchici was also freely and uninterruptedly exhibited, so as to keep up a constant action on the mucous membrane of the intestinal canal. The treatment produced no appreciable effect upon the disease; he lingered about a month longer; he then died in the last stage of emaciation.

I was induced to resort to the strenuous employment of the colchicum in this case, from having considered the disease as peritonæal inflammation of a chronic, or slow nature, arising from rheumatic metastasis. The advantages which I expected to derive from its steady use, were partly suggested by analogy,—from the benefit experienced in its employment in rheumatic and gouty affections of the extremities,—and I looked for in part, from the degree of action it was calculated to excite in the mucous membrane, which, if induced in conjunction with the local and external depletion and counter-irritation, might be expected to subdue, in some degree, the disease, or arrest its progress in the serous tissue.

Notwithstanding my frequent gratuitous attendance, I found great difficulty in persuading his friends to allow an inspection of the body. It was at last permitted, under considerable restrictions.

*Dissection.*—The viscera in the thoracic cavity presented a healthy appearance. On opening the abdomen, bands of adhesions, running through a scanty, turbid, and rather

flocculent serum, connected the peritonæum, covering the abdominal parietes, to that portion of this membrane enveloping the viscera. The omentum was greatly thickened, and formed an intermediate band of connection in several places, owing to adhesions it had formed with the viscera underneath, and the abdominal parietes above. The peritonæum, both where it covered the abdominal muscles, formed the mesentery, or surrounded the intestinal canal, was greatly thickened and covered by a firm and greyish brown coagulated lymph. The stomach, small intestines, and colon, were agglutinated in one mass by means of this adventitious coat; which, in the surface immediately covering the thickened peritonæum, was of equable consistence and density. Towards the lower portion of the abdominal sac, and upon the anterior and more free surface of this coagulum, the bands already mentioned, stretched irregularly across to the external parietes; they were of a cellular appearance about their centre, but of a more friable and flocculent nature on the surface, which character the rest of the free or unconnected portions of the coagulated lymph, covering the viscera, also possessed. The serum existing in this sac, was not above a few ounces, of a dark colour, with lighter coloured flocculi swimming in it. The peritonæum covering the fundus of the urinary bladder, was also greatly thickened, and covered by the same exudation as the other viscera; but here it was more flocculent on its surface, and had formed no adhesions to any other part. The intestinal tube appeared perfectly natural on its internal surface. The other abdominal viscera presented no disease, further than that a great part of their surfaces were involved in the accretions already described, and their peritonæal covering greatly thickened to about the same extent as in the first case. The mesentery partook of the same appearances, and the blood vessels could be discerned in some parts of its surface, running into the agglutinating membrane. The mesenteric glands were, in this case, also much enlarged. Nothing resembling tubercles or hydatids, of any description, could be discovered in this case.

*Remarks.*—Chronic inflammation of the peritonæum has been viewed as an idiopathic disease, in our own times only. The acute disease of this membrane, has been long known to the earlier of modern writers on medicine, both as it is apt to follow wounds of the abdomen, or capital operations implicating this texture; or also, as it not unfrequently supervenes on parturition.

Its occurrence as a primary disease, was well understood, and well described by Platerus, Fernelius, Ballonius, Riverius,

and many other writers of those times, under the varieties of mesenteric and omental inflammation, which, in their opinion, constituted independent diseases, and which might take place separately or be connected with enteritis. Hence, mesenteritis, epiploitis, omentitis, peritonitis, enteritis mesenterica, &c., were assigned to specific diseases by the great nosologists of the last century. The same nosology has been very nearly retained by later systematic writers, who, with few exceptions, have viewed inflammation of this very important texture, as it is marked by an acute character only. Even J. P. Frank, in his work, "*de Curandis Hominum Morbis*," although he enters minutely and most instructively into the diagnosis of peritonæal inflammation, according as the omentum, mesentery, or that portion immediately covering the abdominal parietes, or enveloping the intestines, may be affected; although he views the disease with an eye of keen and philosophical discernment, in its various connexions, whether arising as a primary affection, or as it is apt to supervene to diseases, usually attacking fibrous or serous textures in other situations of the body, or to any of the exanthematæ; yet appears totally unaware of the chronic or very slow form of the disease, as exhibited in the present cases, and by some of our own, and of the French pathological writers.

The first writer who distinctly adverted to the chronic disease of this membrane, I believe to have been the justly celebrated Bichât. "*Il est une maladie*," he says, "*des surfaces sereuses qu'on ne voit point dans le système cellulaire; ce sont ces inflammations lentes dont je parlais tout-à-l'heure, maladie qu'il faudrait plutôt ranger dans une classe autre que celle des phlegmasies, et que la production des petits tubercules qui l'accompagnent, caractérise surtout.*" *Anat. Génér.* vol. ii. p. 558. Dr. Pemberton who, first in this country, pointed out in a clear manner, the idiopathic nature of the disease, makes no mention of the tuberculated structure here alluded to by Bichât, and which, according to Dr. Baron, characterises the affection. In the cases just related, I could observe neither tubercles nor granulations, although my attention was directed to this subject. Broussais (*Histoire des Phlegmasies Chroniques*, vol. ii. chap. iv. p. 435—450) mentions also cases in which no such appearance was observed. M. M. Montfalcon and Gase, in their articles on inflammation of the peritonæum, contained in the *Dictionnaire des Sciences Médicales*, vol. xl., appear to confirm the opinion of Dr. Baron, of their frequent occurrence; but I am neither inclined to fall in with his sweeping generalization on this subject, nor to adopt his reasoning as to their seat and mode of production. I believe

the granulated and tuberculated structure observed in the chronic disease of this membrane neither to derive its origin from hydatids, nor from dilated lymphatics, nor from dilatation of capillary blood vessels.

In my opinion, such diseased structure may be traced to, and may be seated in, the cellular tissue, immediately subjacent to, and connecting this membrane to the adjoining parts; and that it is produced in that texture, by the chronically inflamed state of the capillary vessels opening in that tissue, secreting a viscid lymph, which, from its state of fluidity; and the more compact nature of this texture immediately underneath the peritonæum, cannot flow far from the vessels from which it issues, nor communicate with the similar fluid in its vicinity; the peritonæum is, therefore, elevated into a tuberculous appearance, and as these increase in magnitude, the cellular substance intervening between the minute collections of viscid fluid, becomes condensed into cysts; and hence, as the contents accumulate, any communication between them becomes more difficult.

When the disease is slow in its progress, and the action of the capillary vessels opening on the reticulated tissue is not increased to any great degree of acuteness, the more fluid parts of the contents of these minute cysts may be removed by absorption, when their contents will thus assume a more albuminous, curdy, or cheesy consistence.

As I view the structure of serous membranes to be essentially the same with the reticulated or cellular tissue, only differing in their degree of condensation; so I consider that a granulated or tuberculated structure may in like manner be produced in their very substance, or even in the false membranes, or other depositions which have been produced from their surface by former inflammatory acts, by means of their becoming organized, and afterwards suffering in their turn a slow process of inflammation.

Such I consider to be the origin and process of formation of the tuberculated structure, whether observed in the liver, lungs, peritonæum, or pleura. Such disease is never seen in any organ that is not essentially possessed of a cellular texture.

The history of our pathological knowledge respecting chronic peritonitis must be considered as very limited. Although the medical writers of the two last centuries exhibit no accurate delineation of this highly dangerous disease, yet their writings are not altogether deficient in proofs of a partial acquaintance with its nature, but it was generally classed by them under a different order of disease. Columbus, (*De Re Anatom. lib. xv.*) describes, "Conglo-

merationem intestinorum, natam videlicet ex ultimis ilei partibus una complicatis, tumoremque in hypogastrio exhibentibus." And Morgagni adduces an instance, (Epist. Anatom. Med. 39, No. 29 et 30,) "in which he found the intestines, towards the lower part of the abdomen, conglutinated into one mass, and their coats possessed of an almost cartilaginous firmness." This case occurred after ascites, and sufficiently marks the acute character which had distinguished, in this case, the dropsical affection. Tulpius (*Observationes*, lib. iv. p. 348) mentions an instance, under similar circumstances, in a female who had been affected from an early age with ascites; "upon dissection, the peritonæal coverings were every where thickened to such a degree, as to equal that of the ring finger." I might adduce many other instances from later writers, tending to prove that dropsy is not uncommonly connected with chronic inflammation of serous membranes, constituting what has been long called acute dropsy \*. Morgagni (in the same epistle, No. 26) further describes, "durus et circumscriptus tumor, in infima epigastrii parte extrorsum protuberans, quem sola intestina tenuia retracta et conglomerata simul formabant." The same celebrated author, in adverting to the symptoms of such affections, remarks, that "Pulsus humilis, et debilis potius, et qui si bene attendas, sibi obscure dissimilis sit; abdomen autem tensum, et durum, et cum dolore quodam: facies denique insoliti aliquid, sed in aliis aliud, ostendens; ut interdum oculos quasi exterrefactos, alios livorem quendam circa labra animadvertentem; hæc fere (nam aliquando linguam etiam adnotavit haud bene se habentem, et quamdam sitim) mihi accidit, ut in ejusmodi casibus se observanda præbuerint."

Hoffman, after describing the more acute affections of the intestinal tube, which terminate either fatally or in health in a very short time, mentions those of a chronic character, which he denominates "*dolores chronici, vel colicæ diuturnæ.*" He describes them as continuing during many weeks, and even for the space of a twelvemonth, with various

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The doctrine of acute dropsy has been entertained for at least the last fifty years, and has surely never been overlooked by our best pathologists, as resulting under some circumstances from an increased vascular action in the surrounding tissues, and requiring an antiphlogistic plan of treatment for its removal. For an accurate and full display of this species of dropsy, especially as it supervenes on acute diseases, and on the exanthemata, and for a decided and most judicious method of cure in this species of the disease, I can recommend J. P. Frank, "*De Curandis Hominum Morbis*," vol. iii. p. 75, et sequent. Man. 1792.

intermissions and exacerbations. On dissection, the intestines are found constricted, their coats thickened, callous, and schirroua, &c. (Hoffman de Intestinotum Doloribus, secti 11, cap. v. p. 180).

Other instances could be also adduced from Bonnetus, (Sect. 21, Observat. 3—8,) from Fantonius, (Observationes, Epist. 4) and from the Actis Academi. Nat. Cur. (tom. ii. Observat. 87, et tom. vi. Observ. 124,) in all of which the intestines, omentum and mesentery were accreted into one mass. Burserius gives similar instances, which he considered as arising from an "arthritica, rheumatica, herpetica, storbatica, vel scabiosa materies retropulsa," speaking of these diseases, which he denominates, "intestinorum conglomerationes;" in another place he remarks, "similem (conglomeratorem) vidi in muliere colica chronica jamdiu afflicta et demum marasmo confecta." (Burserius, Institutiones Medicinæ, vol. iv. p. 362, et seq. published after his death by his son).

Jodocus Lomius, in his very excellent observations, furnishes, upon the whole, a correct idea of this disease. "I find it observed," he says, "by some learned men, that the peritonæum, or at least those membranes which cover the abdomen and parts of the belly, are likewise afflicted with very grievous pains. These pains, though they in nowise belong to the cholic, yet since they are equally violent, and very much alike," &c. "And these, as they are very severe, so likewise are they very long, and yield to none of those remedies which are proper in the colic, whether medicines, fomentations, and clysters; but generally succeed long fevers, and those kind of bilious diseases which are not easily solved, and have been often observed to terminate, as it were, critically, continued fevers, as well as tertians and quartans." "The mesentery may also be seized with an inflammation; at this time there is an inward weight, but no manifest pain; a fever arises, but this is moderate," &c. (Jod. Lomius, Observat. p. 316, et seq.)

But it is not to the scanty details furnished, as I have shown by the earlier writers in modern medicine, that we are to attribute the progress made at present in our knowledge of the pathology of this disease. It is to the researches of Bichat, Pemberton, Baron, Broussais, Montfalcon, and Gasey that practitioners at large ought to look for an extended information. But amongst the writings of the last named gentlemen, they will have to separate some dross from a considerable portion of valuable metal.

Up to the time of those writers, this disease appears to have been confounded chiefly with colic, mesenteric affections, or

tumours of the omentum. And it appears to be highly probable, that the varieties of colic, as given in cases and in systematic detail by many of the older writers, under the appellation of arthritica, rheumatica, scorbutica, metastica, inflammatoria, symptomatica, diuturna, chronica, endemica, were chronic inflammations of this membrane; and I believe, that the disease may supervene in the manner indicated by those specific names.

In addition to this catalogue, others from the same and different authors, as constituting varieties of colic, may be mentioned; as colica herpetica; C. ex scabiosa matre re-tropulsa; C. ex perspiratione retenta, atque ad intestina translata; C. mesenterica, &c., which most likely were truly affections of a slow inflammatory nature, attacking this membrane. Fernelius appears to have been of this opinion, he says, "Ab acri vero erodentique humore, aut etiam ab inflammatione quisquis ortus fuerit dolor colicus, fixus etiam est, sed cum febricula, ardore, siti et vigiliis: irritatur esculentis, potulentisque calidioribus, a quibus etiam sumpsit originem."—And again, "Alii insuper cruciatus quadam similitudine et vehementia colici nuncupantur, quibus tamen non in colo intestino sedes est; sed vel in peritonæum, vel in membranis quæ abdomini ventrisque partibus obtenduntur. Hi sane gravissimi sunt, et admodum diuturni, ac neque clysteribus, neque medicamentis, neque fomentis, neque iis remediis quibus qui vere sunt colici dolores deliniri solet." (Fernel. Pathol. lib. vi. cap. vi. p. 159.) Willis entertained a nearly similar opinion respecting the seat of colic, although he did not consider it to be an inflammatory disease, according to the opinion of Fernelius. He says, that "the part primarily affected in colic, appears to be the mesentery, which is highly sensible, and through which a morbid matter is conveyed, not by means of the arteries, but by the nerves, and its seat is not the proper coats of the intestines." (Patholog. p. 11, c. xv.)

I am of opinion, that many a case of chronic peritoneal inflammation is even, in the present day, taken for colic, but more especially for diseased mesenteric glands, the size of the abdomen, its irregular hardness, and the sensation of a ball rolling in its inside, with the hectic emaciated limbs, and dry foul surface, are symptoms which might so easily be mistaken, if not minutely inquired into, for the latter affection. I am even of opinion, that disease in the mesenteric glands may be induced by continued irritation, existing primarily in the serous membrane, by which they become secondarily affected. That such might occasionally be the case, may be granted; without assigning it as a frequent

source of enlarged lacteal glands. But, I cannot help viewing such disease as being sometimes connected with chronic peritonitis in the relation of cause and effect, although not so frequently perhaps as with a similar affection in the villous texture. And it may be also granted, that disease might take place in these glands, co-ordinately with a similar state of diseased action going on in either of these membranes, in consequence of, and depending upon a peculiar state of nervous influence supplying the capillary vessels distributed to those textures. While, therefore, we possess so extended a choice between those various connexions of the disease, it can hardly become us to adopt one exclusively, while arguments can be adduced with equal cogency in support of either.

This disease not unusually supervenes on continued and remittent fevers. I have seen such occurrence more than once. And Tissot (in his *Dissertatio de Febribus Biliosis*, p. 143,) mentions an affection supervening on fever, in a female, who suffered from it for many months. He gives the following characteristic symptoms: "Accessit diarrhœa sæpe recurrens, tumet frequenter tympaniticè abdomen, et fere semper dolet, ita ut minimam vestium constrictionem fere nequeat; deletur prorsus appetitus; urget sæpe sitis; parvus est somnus; urinæ paucæ, turbidæ." This case evidently puzzled Tissot; for after giving this narration, he asks, "Quænam causa morbi?" he adds, "Tabes succedet, tympanitis, ascitis, ictererus, mors." He makes no mention of any dissection. I will not take up the time of the reader with additional proofs from later writers.

It may occur also after acute dysentery; and even during the continuance of the chronic form of that disease, from an extension of the inflammatory action to the serous membrane. Such an occurrence in chronic dysentery was offered to my observation in a tropical climate. The notes of the case, and of the dissection, were lost; but there were extensive marks of disease covering the peritonæal coats, and accompanied also with diseased appearances in the mucous membrane of the large intestines. Similar instances might be quoted from Ballonius (*Consiliorum Medicinalium*, vol. ii. p. 204, et sequent).

In addition to those diseases, it may also supervene on others, as upon some of the exanthemata, and also from metastasis of rheumatism and gout. It may even accompany acute dropsy. The second case here related proves its connexion with rheumatism. Instances of its occurrence in dropsy, in addition to that already taken from Tulpus, may be found in Broussais, &c. It is frequently accompanied

with diarrhœa. Dr. Abercrombie mentions a case of such a nature; but in detailing the dissection, he makes no mention of the state of the mucous membrane, nor of the structure intervening between it and the peritonæum. Similar instances may be collected from the works of Ballonius, Burserius, and other writers.

Although it arises as a secondary affection, and is connected in the manner just alluded to, it appears more frequently as a primary disease, and attended with no diseased appearance in any other tissue. The cases already related are proofs of this position.

This independence on the adjacent textures was a point of too great consequence to pathology to escape the penetrating genius of John Hunter. "If the peritonæum," he says, "which lines the cavity of the abdomen, inflames, its inflammation does not affect the parietes of the abdomen; or if the peritonæum, covering any of the viscera, is inflamed, it does not affect the viscera. Thus the peritonæum shall be universally inflamed, as in the puerperal fever, yet the parietes of the abdomen, and the proper coats of the intestines shall not be affected. On the other hand, if the parietes of the abdomen, or the proper coats of the intestines, are inflamed, the peritonæum shall not be affected." (Hunter on the Blood and Inflammation, p. 244). "L' affection d'un organe," (says Bichât,) "n'est point une conséquence nécessaire de celle de sa membrane séreuse, et réciproquement, souvent l'organe s'affecte sans que la membrane devienne malade," &c. (Anat. Générale, vol. ii. p. 551.) To these I may add the opinion of Sprengel, who remarks, "Neque facile ad reliquas intestinorum tunicas transit adfectus hujus externi velamenti, unde peritonæi inflammationes sæpius observamus sine ullâ inflammatione tunicarum muscularum et nervearum." (Institutiones Physiol. vol. i. p. 345.) Such, indeed, may be the case when the inflammation is seated co-ordinately in none of the subjacent tissue. But when it attacks the muscular coat with the cellular texture, connecting the muscular to the peritonæal covering, I am of opinion, from the appearances observed on dissection, that the latter coat has partaken in the inflammatory action; and according as the inflammation is seated towards that membrane, or towards the mucous coat, so will the state of the bowels be either costive or open.

In regard to the treatment to be recommended, I can add little to what is already known. Local bleeding, and leeches

to the abdomen, followed by the external irritation of blisters, or what, in my opinion, is still better, the application of the tartar emetic ointment should be resorted to. In some cases, even general and full bleeding from the arm may be employed.

I have seen this and other membranous inflammations treated very successfully by Broussais, at the Val-de-Grace, by the local application of a number of leeches, which, in my opinion, would have been accomplished more readily in some habits by a single large bleeding *ad deliquium*; and then the local depletion, if necessary, might have been resorted to.

I must, however, remark, from what has come under my observation, and from a small share of experience, that local bleedings are of infinite service in many cases in which no such a remedy was formerly thought of; and I also think that such practice ought to be more generally adopted in this country than it is at present; but not in the place of the more efficient remedy, namely, general depletion.

Purgatives, combined with antispasmodics and anodynes, should not be neglected. Also diuretics, of which I think the best, in this disease, is colchicum; but the whole list of this class of medicines may be gone through. Castor oil, salts, and similar purgatives may be chosen. The resinous ought to be avoided.

## VII.

*On Colchicum Seeds.* By EDWARD JAMES SHEARMAN,  
Surgeon, Tibshelf, Derbyshire.

AFTER having read the observations of Dr. Williams, in the late Numbers of the REPOSITORY, respecting the efficacy of the seeds of the colchicum autumnale, I was induced to try the medicine in a few cases under my inspection, and feel pleasure in saying that I have not been disappointed. By detailing the two following cases concisely, I hope I shall not be infringing too much on this publication.

*Case 1.* — Mr. C. B., ætat. twenty-five, contracted syphilis in April, 1820, which appeared under the form of chancres, and bubo, for which he applied to a neighbouring Practitioner; and, whilst under the influence of mercury, was obliged to take a considerable journey on horseback, the consequence of which was, that slight secondary symptoms appeared in the throat. The chancres and bubo getting well, he neglected the symptoms in his throat, which apparently remained stationary. The following July he

contracted gonorrhœa, which was attended by violent chordee and high inflammatory symptoms. The usual remedies were resorted to, and the symptoms disappeared, when the left testicle became inflamed; for this, general and topical bleeding, saline cathartics, and nauseating doses of tartarized antimony, were used, which subdued the inflammation. In August there was considerable hardness of the epididymis remaining, from the effusion of coagulating lymph, and the throat was still inflamed: every other symptom had disappeared. He would not rub in mercury, but took the blue pill. Slight pyalism came on, and the herula humoralis reappeared, which was again subdued by antiphlogistic measures; the induration still remained. Mercury was given again in September; soon after which, the right testicle became inflamed. In short, from this time to the latter end of November, he was alternately employed in using mercury, and subduing the inflammatory action, first of one testicle and then of the other; sometimes riding forty miles a day, and getting wet; at others confined to bed for several days together, owing to the pain from the indurated testicle. His nights were very restless, and his system much emaciated. In this state, after every usual remedy had failed, he took, on the 25th of November, two doses of the *vinum seminum colchici*, each containing one dram and a half; passed a comparatively tranquil night, and continued the same dose three times a day for nearly a fortnight, omitting it when it affected the bowels too severely; by which time, the disease in the testicles had gradually subsided. He had been advised by Surgeons whom he had consulted during this period, to continue the use of mercury. A slight gleet, without stricture, and a very irritable habit, alone remained. His throat presented no appearance of disease. By discontinuing entirely the use, or rather abuse of mercury, these gradually vanished, and he now enjoys perfect health.

*Case 2.*—Mr. J. B., ætat. fifty, subject to frequent attacks of chronic rheumatism, was seized with inflammation of the testicle about the 8th of February, 1821, immediately after a slight attack of lumbago had subsided. I saw him on the 19th; found considerable inflammation and hardness of the epididymis, accompanied by fever and constipated bowels. Rest in the horizontal posture, and cathartic febrifuge medicines, with the usual local applications, were prescribed.

On the 14th and 15th the constitutional symptoms were much amended; but the testicle increased in size and hardness, and was excessively painful. He took, on the 16th, *vinum seminum colchici* one dram, every four hours. When I

saw him on the 17th, the inflammation was much lessened, and the pain had quite left him. By continuing the use of the medicine a few days, the induration, and every other symptom, entirely subsided.

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## DEPARTMENT OF NATURAL HISTORY, &c.

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*Calendar of Fauna, Flora, and Pomona, kept at Hartfield, near Tunbridge Wells.* By Dr. T. FORSTER. From the 1st to the 31st of March, 1821.

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March 1st.—The weather very changeable, and an epidemic prevailing, which resembles the influenza of London, which happened about twenty years ago.

2d.—The Crocus, Snowdrop, Primrose, Perriwinkle, and Dandelion in flower; and here and there a Daisy. The Pilewort (*Ficaria verna*) in blow, though as yet but sparingly.

9th.—The *Anemone hortensis* in flower in some of the cottage gardens.

10th.—Riding through Limpsfield to London, I noticed *Tussilago Farfara* in flower plentifully by the road side, near Eden Bridge.

12th.—In addition to the brilliant colours of Blue, Yellow, and White Crocuses and Snowdrops, which now ornament almost every garden, we have the Double Daffodilly.

*Narcissus Pseudonarcissus* is just in flower. The *Anemone hepatica* also displays several splendid varieties in great profusion, and various Primroses and Polyanthus are in full perfection.

13th.—The *Pulmonaria officinalis* in flower at Clapton.

14th.—The Chickweed (*Alsine media*) in flower. *Draba verna* is also in flower on the old brick walls about Walthamstow, in Essex.

15th.—The weather is now fine and warm, which brings the spring forward. The Willows are generally in flower, and the early trees begin to bud.

30th.—Riding to-day between Wanstead and Chigwell, I noticed (among numerous beds of Daffodils) the Red Crown Imperial (*Fritillaria Imperialis*) in flower in a farm house garden.

31st.—The Flora is considerably more forward at Hartwell, in Sussex, than it is at Walthamstow. I hear that there the Leopard's Bane is already coming into flower.

The *Tulipa suaveolens*, and *Hyacinthus Orientalis*, with several of the *Narcissi* in flower now in the open ground.

[This Journal is to be continued in the neighbourhood of Tunbridge Wells.]

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PART II.

ANALYTICAL REVIEW.

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I.

*A Dissertation on the Treatment of Morbid Local Affections of Nerves; to which the Jacksonian Prize was adjudged by the Royal College of Surgeons.* By JOSEPH SWAN, Member of the Royal College of Surgeons, and Surgeon to the Lincoln County Hospital.

THE word "nervous" every one knows to be exceedingly vague and general. Like another fashionable expression, "the digestive organs," we often make use of it without attaching any thing to the term beyond the most sweeping signification. It is, indeed, a mode of concealing, with the best grace we are capable of assuming, our actual ignorance of the state thus aimed to be predicated; and all this obscurity and vagueness arises from the circumstance that the change which the organs of feeling undergo in order to produce a certain set of exterior signs, is, in a great measure, beyond, at least, our present knowledge of structure, as connected with, and the cause of function.

It is not even proved, but that violent pain may originate from some change in the condition of nervous substance or febrillæ, beyond any source which our notions of causation should suppose such effect to be traceable to; and why an individual is at one moment alert and pleasurable in his feelings and powers, and the next dead to excitement, and insusceptible of emotion, are facts that neither nervous nor "digestive organ" phraseology does any thing more really to explain, than would other terms that we might please to invent. This exceeding difficulty and obscurity, however, so far from proving a bar to exertions in the way of investigation, ought to operate precisely the contrary effect; and all we have to do, in pursuing such researches, is to be careful not to "substitute nominal for real essences," and think that we gain knowledge in proportion as we coin words. Even the great John Hunter, we have more than once said, was guilty, in some measure, of this mistake, so vitiating in its consequences to real science, when he talked of "the life of the blood," and "the stimulus of necessity"—expressions which, in themselves, might have been very well, had they not been used in the way of announcing causation.

Mr. Shaw, our present author, is, we are happy to say, not greatly addicted to the error now alluded to. He gives in, indeed, as it appears to us, mistakingly, to the galvanic theory of nervous causation; but even in doing so, he would infer his opinion from analogical observation, and not from preconceived notions. The fault we find with this theory, is that actual analogy seems to be too hastily inferred. The circumstance which Monro pointed out some time since, is proof positive that nervous excitation and electric phenomena are at least governed by some different laws, viz., that the divided ends of nerves placed in apposition will fail to convey sensation, while an electric wire, thus treated, will prove the vehicle of carrying excited electricity with the same ease and expedition as was the case before the division. Indeed, we do not know, in spite of what we have just advanced, as exculpatory of the galvanic reasoners, but that there is some little confusion in their views, as it refers to cause and effect. Do they not conceive the *excitation* of the thing, to be the thing itself? Would it not be almost as reasonable to call opium and brandy nervous energy, as to say that this faculty is galvanism?

But, we must leave prefacing, and commence analysis. Mr. Shaw first treats of those affections which implicate the nerves of *sense*; and, secondly, of those which are under the influence of the *will*. "A third division," he says, "might be added, which would include the ganglian system, belonging chiefly to the grand sympathetic nerve, and distributed in a great measure to the thoracic and abdominal viscera;" but he declines entering into the pathology of this portion of the nervous system, both as not hitherto having had much light thrown upon it, and "as it is not much connected with the department of the Surgeon." He might have added, that the division has been too nicely conceived and traced of these several parts of the sentient organization.

When treating of "diseases and injuries of the olfactory nerves," Mr. Shaw tells us that "the power of the nerves constituting the sense of smell may be diminished or destroyed by the frequent application of strong odours to the nose, or from an inflammation of the Schneiderian membrane. The same thing may likewise happen from pressure on the origins of nerves by hydatids, or an accumulation of water in the lateral ventricles of the brain, or from their being involved in a diseased action going on at the under surface of the anterior lobes of the brain, or from a diminution of the foramina of the cribriform plate of the ethmoid bone. When there is an inflammation of the membrane, which takes away this sense, leeches may be applied to the outside of the nose, and the

inside may be anointed by means of a feather with some cooling ointment, and some purging medicines may be given. All the other diseases are generally beyond the reach of art.

The diseases of the optic nerve may either be connected with determinations of blood, may be sympathetic of general derangements of the system, or may be the result of simple atony. This last admission we are glad to find in so sensible and observant a Practitioner as Mr. Shaw, convinced as we feel, that the idea of nervous weakness, without determinations of blood, is going rather too much out of fashion. When, however, amaurosis comes on, with great sensibility of the eye, and an intolerance of much light, we are always to suspect that "a slow inflammatory action is going forward in the retina, and if its progress is uninterrupted, the retina becomes gradually more insensible of light, until its perception is quite lost."

When this disease is a consequence of a blow on the eye, or eyebrow, it is almost always incurable, and also when it is the effect of an organic disease in the retina. In this latter case, instead of the eye looking black through the pupil, it has a pearly appearance, which is sometimes inclining to green. When it is connected with cataracts, it is always incurable; and also when the humours are cloudy, and the pupil is contracted, and irregular, and will not dilate.

When the disease is coming on, if there are flushings of the cheeks, or other symptoms of a determination of blood to the head, blood ought to be taken from the arm, a blister should be applied to the back of the neck, some leeches to the temples; and mercurial purges should be given; and when the inflammatory symptoms are gone off, five grains of the blue pill should be given every night for a length of time; and at the same time a strict antiphlogistic regimen should be enforced.

"When it comes on with a disorder of the digestive organs, remedies must be used to restore them to their proper functions. If pain in the head is much complained of, and the patient is much debilitated, some blood may be taken from the back of the neck, by cupping, or by the application of leeches to the temples, and then blisters may be applied to these parts. If there are no marks of inflammatory action in the constitution, but, on the contrary, it is much debilitated, tonic medicines should be given. The vapour of ether, or the liquor ammoniæ, may be applied to the eye; and if these remedies do not succeed, electricity should be tried.

"Snuff, composed of a quarter of a grain of the hydrargyrus vitriolatus, mixed with four grains of sugar, and snuffed up the nose night and morning, has been supposed to be of use."

The gustatory nerves are sometimes injured by the tongue being bruised between the teeth, but, for the most part, a disordered state of these nerves is symptomatic of a deranged condition of the stomach, which, of course, requires to be corrected before the nervous functions can be restored to their wonted energy.

Nervous deafness cannot be at all times satisfactorily distinguished from a complaint in the meatus. "If, however, the patient stops his nose and mouth, and blows downwards, and feels that peculiar sensation which every one does when the Eustachian tubes are perfect; and if a watch cannot be heard, except very faintly, when it is in contact with the head, face, neck; or teeth, we may be certain that the disease is in the nerve."

"When this disease first comes on, submuriate of mercury should be given every night, and as much sulphate of magnesia or jalap in the day-time as will purge the patient. Blisters should be applied behind the ears once a week, and abstinence from fermented liquors and animal food enforced.

"When it comes on, attended by symptoms of a great determination of blood to the head, the patient should be bled, otherwise he may be seized with a fit of apoplexy."

These remedies, even after the disorder shall have existed for some time, may prove availing beyond expectation. Mr. Swan gives two cases in point. He then enters into a disquisition on the subject of deafness, arising from a derangement in, or deficiency of nervous power, the object of which is mainly to prove, that by exciting the facial nerves, we should often succeed in giving, even to the deaf and dumb, a certain perception of sound, which, in course of time, might come to form a something considerable in the way of substitute for hearing in the common manner.

"May we not suppose that in dumb people the facial nerves would have much more power of receiving the impressions of sounds, if they were properly exercised, than when no exertion of this sort is used? I doubt not but that many people have the power of hearing sounds with the face, when the mechanism of the ear is perfect, for I have frequently stopped up the external ear as close as possible, yet the human voice has been heard."

The common method of instructing the dumb, we all know, goes precisely upon the reverse principle, viz., that of calling the attention from sounds to signs, and we are disposed to think, there is a considerable measure of justice in Mr. Swan's objection to this plan of remedying the defect in question. In a preliminary discourse to the disquisition on these

affections which attach to the nerves of voluntary motion, we find that question agitated, to which particular reference was made in our Review of Dr. Cooke's Treatise on Nervous Diseases, viz., whether the nerves of feeling and motion have different origins. Our present author inclines to the supposition, that there is no difference between these nerves, but that they may be sufficiently perfect for enabling the skin to perform its functions, when they are not sufficiently so for voluntary power.

The above assumption, however, leaves unexplained several phenomena connected with paralytic disorders, and it is especially difficult, upon this principle, to say why those alternations take place which we so frequently find between derangements in the intellectual and moving powers. We often see, for example, from apparently the same degree and kind of brain disturbance, very different results as to after-effects, and the muscles of the will shall, for a time, be engaged with the disorder, and then give way, as it were, for a deranged condition of mind. In fact, we want much more information than we at present possess, (it may be questionable whether we shall ever obtain it,) before we can infer any thing very positive or absolute on the head of structure combined as with office, in the encephalic and nervous organization.

The diseases of the nerves of voluntary motion are, says Mr. Swan, of two kinds, active and passive.

"The active diseases are all those affections of the nerves attended by pain, and frequently by a motion of the affected part, as tic douloureux, &c.

"The passive are those affections termed paralysis."

It is not very easy to say of some affections what is their precise nature. Of tic douloureux, for example, the exact mode in which the local disturbance is brought about, has not as yet been ascertained. Increased heat of the part is, in the general way, a concomitant of the complaint; but it would appear, that the "irritation of the nerve is the cause of the increased action of the blood-vessels; nevertheless, this increased action may tend to increase or keep up the irritation of the nerve." Sometimes tic douloureux appears to be "an original affection of the nerve; sometimes it is produced by irritation, as from an ulcer connected with a branch of a nerve; sometimes from a decayed tooth, from an anastomosis between the affected nerve and those of the teeth, but most frequently from some disorder of the constitution."

"There appear to me to be two principal indications of treatment for the cure of this complaint: the first consists in strengthening the constitution, and thereby enabling it to counteract the habit

which favours the continuance of the irritation; the second, in allaying the local irritation.

"The first is best fulfilled by the exhibition of tonic remedies in doses, which must be repeated frequently, and at regular intervals, so as to produce new and regular actions: and when the diseased action is very violent, sedatives must be given, both with a view of alleviating the pain, and assisting the constitution to overcome the morbid actions. The best tonic remedy for effecting this change is bark, which should be taken regularly in doses, from half a dram to a dram, every three or four hours, day and night: wine and malt liquor should be allowed rather freely. In this complaint the digestive organs are frequently disordered, but I have often known them restored during this plan of treatment.

"I think arsenic a very doubtful remedy, and to be administered with great caution; and that mercury should be likewise used very sparingly.

"Besides the use of medicines, the patient should be regular in his diet; he should take regular and gentle exercise, and cease from every exertion of the mind that can be attended with any irritating effects.

"The second indication of cure is best fulfilled by reducing the heat and action of the part by leeches and evaporating lotions; and if cold applications disagree, the pain may be moderated by fomentations and the use of an opiate liniment."

Simple division of the nerve has often succeeded in curing the disorder, but when an operation is had recourse to, "a piece of the nerve should be removed, if there be no particular reason forbidding it." We gain two advantages by thus cutting out a piece of nerve instead of merely dividing it; "in the first place, the divided portions would be longer in uniting, and more time would thereby be afforded for the diseased action of the parts to wear off; and, secondly, because they would retract out of the reach of the external wound, and be less liable to partake of any inflammation or other irritation occasioned by it."

Do the nerves communicate their influence in the way that arteries do their blood, by anastomoses, after the divisions or interceptions of a main branch? Mr. Swan thinks at farthest but in a very trifling degree.

"Tie the femoral artery, or even the external iliac, and divide the sciatic nerve, and see how wide the difference will be: scarcely any inconvenience is felt from either of the former, for the limb is immediately nearly as well, as far as the circulation of the blood is concerned, as it was in its most healthy state; whilst the latter is a great many months in feeling the perfect return of the nervous influence; and if a portion of nerve is removed, it will be very long indeed before such a reparation is effected, so as to enable the parts to perform their functions, even in a manner just sufficient for their preservation.

If a large portion of an artery is destroyed, still no inconvenience is felt; whilst, on the other hand, where even the ulnar nerve is divided, or a portion of it removed, how long is it before it can again convey the nervous influence."

The douloureux is not confined to the facial nerves, the nerves of other parts of the body being occasionally affected in the same way.

*Of Inflammation of Nerves.*—These organs are subject to inflammation from their contiguity to other inflamed parts. Mr. Swan conceived the inflammation of a nerve, in an idiopathic way, to be a very rare occurrence. Sciatica is thought, for the most part, to arise from an inflammatory action in the neurilema, which frequently ends in an effusion of a serous fluid. He recommends, after bleeding, blistering, and purgative medicines have been used unavailingly, the extract of stramonium, in doses of a quarter of a grain, gradually increased to two grains, three times a day. "In some instances, when every thing has failed, an entire confinement to bed, and tonic medicines, with as much opium or anodyne as will moderate the pain, has been found to succeed."—"In obstinate cases, it will also be of use that an issue should be made near the trochanter, and that a grain of submuriate of mercury should also be given every night."

Nerves may be in a state of ulceration, and will then be attended with excessive pain; they are susceptible, too, of very considerable enlargement from long-continued disease in a part. "When a disease has existed in the hip joint a long time, do not the nerves become enlarged? If they do, is not this the cause of an issue keeping up the irritation, and nearly the same symptoms, when the disease or inflammation of the joint has gone off?"

When tumours form in the substance of the nerve, very violent pain for the most part accompanies the morbid process; this pain, too, is much increased by pressure, and the tumour is "generally moveable from side to side only, as the upper and lower extremities are confined by the nerve." In this case there is no radical remedy but the removal of the tumour, which is best done by the knife, and it "is generally much better to cut out the portion of nerve in which the tumour is situated, than to dissect the tumour out of the nerve." When, however, it is determined that a portion of a large nerve shall be removed, it ought to be as small a part as possible. A small division of the nerve above the tumour, is not, on the other hand, advisable, as the relief thereby procured would only be temporary. Should a tumour occupy several inches of a large nerve, as of the

sciatic, it would be better to dissect it out, or amputate the limb, if the peroneal nerve could not be preserved entire.

*Treatment of Divided Nerves.*—Very little pain is felt from a division of a nerve, if the wound be healed by the first intention; but an open ulcer, connected with a wounded nerve, is usually very painful, and sometimes produces violent symptoms, “so that when a nerve has been divided, it is a matter of the greatest importance to produce union of the parts about it by the first intention, because then, the divided extremities of the nerves are not irritated, being excluded from the air, and from every thing that could communicate irritation to them, and they have only the action necessary for their reparation to support. It is necessary to clear away, as much as possible, all the coagulated blood that may have been effused, and every thing that can act as an extraneous body.” There are two ways of which nature employs to effect the union of nerves; “one by effusion of coagulable lymph, the other by granulations; and of the latter there are two kinds, one where there is a secretion of pus, the other where there is none.”—“When a nerve has been accidentally divided, if the external wound has healed, and there has not been any symptom of irritation for some time, in order to expedite the restoration of the nerve, it may be advisable to rub the part daily with the hand, or a flesh brush; and in order to stimulate it still further, the following embrocation may be used: *R* Linim. sapon. comp. 3x. *Liquoris ammoniæ*, ʒij. *m.*; from time to time the quantity of the liquor ammoniæ may be increased. Should this plan be ineffectual, I think it probable that galvanism daily applied to the part might give the stimulus necessary to complete the action of the parts, and thereby enable them to complete the union of the divided nerve.” A generous diet, too, is required, with an attention to the state of the digestive organs.

Punctures, or partial divisions of small nerves, sometimes require the whole nerve to be divided, in order that relief may be obtained, as is well illustrated in the following case, communicated to Mr. Swan by Dr. Wilson, of Grantham:—

“I was desired to visit Mr. B.’s housekeeper, at ——. I found my patient in strong convulsions, and held upon the bed by several assistants; her hands were strongly clenched, and she was struggling greatly; she soon after became comatose. I was informed that she had been let blood two days before by a gardener; that she complained very much of the arm where she was bled, and of a pain shooting from thence to the shoulder. I examined the orifice of bleeding, which was in the median vein; it had not healed, was somewhat inflamed, and a thin liquor oozed from the lips of the wound. While

I was making this examination she became again strongly convulsed, as I supposed, from the irritation I had caused. With a view to interrupt the communication from the diseased point to the sensorium, I applied a tourniquet above the part: a remission of the spasms soon followed, and I administered an anodyne; but the convulsions, after a short interval of ease, recurred as before, and the application of the tourniquet was again made without any good effect. As I had no doubt that the cause of the disorder was an injury of a cutaneous nerve in the operation of venesection, I determined to endeavour, by a transverse incision, to divide the nerve above the injured part, and to destroy its connexion with the sensorium; I therefore made an incision while the convulsions were most violent, of about an inch in length, and small depth, just above the orifice: no mitigation of symptoms was perceived; but on making another incision above the former one, somewhat deeper and longer, she cried out immediately, to the astonishment of the attendants, 'I am well, I am quite well, I can stir my arm;' which she began to move, and continued to do so with great delight, for some time, in various ways. She had no return of the spasms, and very soon got well."

Mr. Swan, however, imagines that by far the greater number of troublesome cases from wounding cutaneous nerves in venesection, are made so by the patient using the arm too soon, and thereby bringing on inflammation. He has never, he says, seen any bad consequences from bleeding when a patient has been so ill as to be unable to do any thing. The violent symptoms and excruciating pain which sometimes follow a partial division of a nerve, appears to be owing to the retraction of the divided portions, by which the fibrillæ that are not divided are put upon the stretch; and when this state of things produces alarming irritation, it is expedient to have recourse to complete division, trying, however, in the first instance, the effect of palliatives. It is always necessary to ascertain, before operating, whether the violent symptoms do not proceed from the state of the constitution, rather than from the degree of local injury.

"Punctured wounds of the fingers frequently cause very alarming symptoms, which I cannot but suppose are owing to the puncture of one of the nervous fibrils, which are so numerous in these parts. They cannot be owing to a mere wound, because if the wound is enlarged, and a bit of caustic is cut so as to have a sharp point, and is introduced into it, the pain generally subsides, and all the alarming symptoms go off.

"Query: Whether in this case the caustic does not destroy the remaining part of the wounded fibril, and thereby remove the symptoms?"

We were gratified in finding our author combat the prevailing, but, most certainly, highly gratuitous notion, that tetanus is the consequence necessarily of a disease in the

spinal marrow. When, as is confessedly often the case, dissection shows changes from the healthy appearance of parts in the medulla spinalis, it has always appeared to us, and Mr. S., it seems, is of the same opinion, that they are circumstances which take place in the course of the disease, rather than the essence of the disease itself. He has most faith in the remedial efficacy of very large doses of opium in tetanus.

When nerves are included in ligatures, so as to cause pain and irritation, the patient most generally refers his disordered sensations to the parts to which the tied nerve is distributed. It is, of course, expedient to remove the ligature, when the symptoms it produces menace much violence of affection.

Compression of nerves almost necessarily occasions an interruption of their functions, and pain is frequently felt in a part, the cause of which is unsuspected from being at a distance.

"A very curious case of this kind is related by Portal, the subject of which was a woman who had a very great curvature of the spine, and three or four hours after each meal complained of much pain in the great toe of the left foot: it was always increased by injections, but went off when she had a copious alvine evacuation. It was found to have been produced by pressure made by the last false ribs on the sigmoid flexure of the colon, which caused the fæces to have great difficulty in passing, and, in consequence, compressed the lumbar plexus of nerves."

Mr. Swan very properly observes, that in cases of paraplegia, it is not merely of consequence to draw off the urine, on account of the safety of the bladder, but because its over-distention presses upon the nerves, and must tend to prevent their recovery.

Chapter the 14th, of the work under notice, comprises an experimental inquiry into the process nature employs for repairing wounds of nerves, from which the following conclusions are deduced:—

"It will be seen from these experiments, in the first place, that after a division of a nerve, the extremities of the divided portions become enlarged and more vascular, but especially the upper portion; and coagulable lymph, having the appearance of white of egg, is effused, which soon becomes vascular. In a few days, the coagulable lymph from each portion becomes united, and anastomoses form between the blood-vessels; the coagulable lymph gradually assumes a firmer texture, and the number of the blood-vessels diminishes, and the newly-formed substance appears to contract, like all other cicatrices, so as to bring the extremities of the divided portions nearer and nearer to each other. It is difficult to determine, from an experiment on the limb of an animal, the exact time at which the nerve again performs its functions. In eight weeks after the division

of the sciatic nerve, I have observed a rabbit to be in some degree improved in the use of its leg, but at the end of eighteen weeks it was not perfect. When the nerves of the leg of a horse have been divided just above the foot, they are sufficiently restored to perform their functions in a very great degree in six or eight weeks; but it must be observed, that these nerves are only formed for sensation, and it is very different with the nerves of voluntary motion.

“ The reunion is sometimes accomplished by granulations.

“ Secondly, I would observe, that punctures and partial divisions of nerves heal in the same way as when there has been a total division; and that, even on the first infliction of the wounds, the functions of the nerve are very little impaired.

“ Thirdly, It appears, from the foregoing experiments, that when a portion of a nerve has been removed, the restorative process is set up in the same way as when there has been merely a division of the nerve; but the extremities of the divided portions afterwards present such appearances, as to lead to a supposition that the nerve will never again be restored of the same size as before.

“ So much depends on the subject, and a variety of circumstances, that it is impossible to make any accurate experiments to ascertain how large a portion of a nerve can be restored after its removal. If this could be done, it would tend much to improve the treatment of diseases of the nerves, as we then might remove as large a portion of a nerve as would be necessary to prevent the recurrence of a very painful complaint; or, knowing how far a limb would suffer a permanent injury from the removal of a portion of a certain size, as in the case of a tumour being seated in it, we might at once determine, whether amputation of the limb would not be the best resource, when the patient is suffering so much as to lead to a supposition, that if he is not relieved death must be the consequence.

“ It appears to me that a reproduction of a portion of a nerve is not accomplished without the greatest difficulty, except where there are very frequent communications with other nerves, or except a much increased action of the blood-vessels exists in consequence of a diseased state of the part in which the nerve is situated, as in the case related by Mr. Abernethy, where a portion of one of the digital nerves was removed. When a portion of a nerve has been removed, if its reproduction were a desirable object, this circumstance of its growth in diseased limbs, makes it probable that it might be much assisted by irritating frictions, electricity, &c.

“ Though when a large portion of a nerve has been removed it is seldom restored, yet, in some instances, new nerves are formed to keep up a communication with the brain. It appears extraordinary that entirely new nerves should be formed, but it is not more so than that new arteries should be produced, as Dr. Parry has, I think, satisfactorily demonstrated.

“ Fourthly, I would observe, as another result from the experiments I have detailed, that when a ligature has been put on a nerve, the parts to which it is distributed are deprived of sensation and motion, in the same manner as when a nerve has been divided. Immediately after its application, the vessels of the nerve begin to

enlarge and become more numerous, and coagulable lymph is effused from each end of the nerve, which, in the nineteenth experiment, seventy-two hours after the application of the ligature, had united, and the vessels of each portion had anastomosed. The ligature becomes incased by the lymph. Immediately after it is cast off, the separated portions of nerve begin to unite, and the process of reparation goes on until the union is so complete as to enable it to perform its functions.

"When a ligature has been put on a nerve, the sooner it is cast off, the greater probability there is of a perfect restoration taking place. When it is known that a nerve has been tied, after a few days it will be better to pull the ligature gently every day to expedite its separation, as it may become so firmly confined to the parts about it by the coagulable lymph, as to make the reunion more difficult to be accomplished, when much time has elapsed before its separation; and so long as it remains, it forms so complete a barrier as to prevent the reunion of the separated portions, except in a very slight degree.

"From the variety of experiments I have made in every way, and from the animals not suffering any of those violent symptoms sometimes attending injuries of the nerves in the human subject, I think we must conclude that something exists in the nerves thus affected, different from what usually obtains in the animal economy; and as no change of structure is produced, as far as the eye can reach, the violent symptoms must be owing to a peculiar irritability superadded to them, either from a particular conformation of the body, or from such changes having taken place in the constitution, by disease, &c. as are known to produce these effects on the brain and nervous system. I am here only speaking of the violent symptoms supervening on the wound of a nerve which has healed, and caused no change of structure to account for their production. I leave out of the question those injuries and diseases where there is a mechanical cause, as when a tumour or any extraneous matter is lodged in a nerve, and likewise where the nerves have become ulcerated, because I believe they are always productive of intense pain, let the state of the subject be what it will; though I think it probable that some constitutions suffer much more than others, even under such circumstances."

## II.

*An Inquiry into the Nature and Treatment of Gravel, Calculus, and other Diseases connected with a deranged Operation of the Urinary Organs.* By WILLIAM PROUT, M.D., F.R.S.

"THE medicine of the present day principally differs from that of our immediate predecessors in two important points. In the first place, diseased function is more minutely referred to deranged structure, (at least the disposition to such reference is more general among pathologists;) and in the next, the principle and language of chemical physiology are be-

come abundantly more precise and definite. We would that it were in our power to predicate an exact proportion of corresponding improvement in the practical application of the science. But medicine is different from every thing else, in respect to the measure of actual good resulting from correct precepts; and although practice must necessarily have a very considerable connexion with theory, the reflecting among us find often cause to lament that such connexion is, in many cases, so to say, loose, and even problematical. Have a greater number of lives been saved under the Parryean than under the Cullenian pathology, allowing the superior correctness of the latter? Would the practice of Bichât have proved more efficient than that of Dr. Mead, the one, in its results, being compared with the other? And, lastly, as especially applicable to our present topic, to how many more patients, in the long run, would Prout give ease and health, than the Practitioner who should be no further acquainted with the composition of the urinary excretion, than that it contains a vast variety of differently modified ingredients? We protest against misconception. Let us not, for a moment, be suspected of favouring the cause of indolent empiricism, but let us be understood as wishing to assert, 1st, that there is a something in vital causation which powerfully interferes with the applicability to practice, of the most correct data; and, 2dly, as indeed resulting from this circumstance, empirical medicine, though confessedly the most dangerous, is sometimes equally successful with the most philosophical.

It might, *à priori*, have been imagined, that we had only to apply our chemical tests to the ascertainment of what should be deficient or redundant in the product of the several emunctories, and add or subtract the principles accordingly. But into what nonsense have the most scientific and able men been led by thinking and acting under this presumption? Who does not recollect that Beddoes, at one time, talked of curing consumption by giving scurvy? And we have a marked instance in the late speculations of Majendie, on the subject of calculous diseases, of the total failure of an ingenious man determined upon being, through thick and thin, a chemical pathologist.

Against the speculations of our present author, however, we have nothing of this kind to allege; on the contrary, we have just closed his book with an admiration at once of his scientific attainments and moderate pretensions, and we think, that however small may be the therapeutical progress of our art, it will, at any rate, be kept from retrograding, and

must ultimately make some advance under such professors and such writers as Dr. Prout. We have seldom perused a treatise so free from the vice of book-making, or so little tinged with the *cant* of medical hypotheses — hypotheses which strut and fret their little hour on the stage, but soon descend to the “vault of all the Capulets,” to be covered by fresh and fresh layers of, in their turn, oblivious matter.

As diseases connected with a deranged condition of the urinary organs constitute the principal topic of the book now under review, it is a very natural order of things to commence with a statement of the ingredients contained in healthy urine; and the following Table, first, of the blood's constituents, secondly, of healthy urine, and, thirdly, of this secretion in a diseased state, we think to be exceedingly well conceived.

BLOOD contains	URINE contains,	
	Healthy	Diseased
Water.	Water.	_____
Albumen. Fibrin.	_____	Albumen. Fibrin.
Red particles.	_____	Red particles.
_____	Urea.	_____
_____	Litbic acid.	_____
_____	_____	Nitric acid. Erythro-
_____	_____	acid. Purpuric acid.
_____	_____	Oxalic acid. Ben-
_____	_____	zoic acid. Carbonic
_____	_____	acid. Also Xan-
_____	_____	thic oxide. Cystic
_____	_____	oxide. Sugar. Bile.
Lactic acid, and its	Lactic acid, and its	_____
accompanying ani-	accompanying ani-	_____
mal matters.	mal matters.	_____
_____	Mucus of the bladder.	_____
_____	_____	Pus.
Sulphur. Phosphorus.	Sulphuric acid.	_____
Muriatic acid. Fluorine?	Phosphoric acid.	_____
_____	Muriatic acid.	_____
_____	Fluoric acid?	_____
Potash. Soda. Lime.	Potash. Soda. Am-	_____
Magnesia. Silix?	monia. Lime.	_____
_____	Magnesia. Silix?	_____

The increase or decrease of the mere water of the urine are by no means unfrequent occurrences; and in some circumstances of disease, as in some varieties of dropsy, the urine becomes albuminous, and even fibrin, and red particles pass through the kidney unchanged. We are, however, told by

Dr. Prout, "that the albuminous matters found in urine are usually more analogous to those of chyle than of the blood. An excess of urea is not uncommon; but no malady with which we are acquainted can be properly said to be constituted or characterized by a deficient *proportion* of urea; for although in diabetes, and some other diseases, the urea is deficient in quantity, "the same holds with respect to the other principles." Dr. Prout opposes the supposition of lithic acid existing in healthy urine, as lithic acid, in a free, or uncombined state. But in some forms of disease, an uncombined acid is really contained in the urine, the lithate of ammonia is decomposed, and "*the lithic acid deposited in a crystalline form, and nearly pure*"; thus constituting the disease called gravel."—"The *oxalate of lime*, too, in some rare instances, forms gravel, and not unfrequently calculi." Our author doubts, with Berzelius, the occasional presence of benzoic acid in the urine; it seems, therefore, put in the table from the report of Scheele and others. It is probable, that carbonic acid does occasionally exist. The xanthic oxide described by Marcet, does not exist in the blood, and has never been detected in the urine, except in the instance mentioned by this last author. The cystic oxide only appears in the form of calculi, which are extremely rare. "The sugar found in diabetic urine differs in its appearance from common sugar, and approaches more nearly to the sugar of grapes." Bile sometimes finds its way into the urine unchanged. The lactic acid, and its accompanying animal matters, according to Berzelius, pass also from the blood to the urine unchanged. Mucus is, of course, derived from the membrane lining the urinary passages, and pus is also engendered in the urinary organs. Sulphuric acid is never met with in the blood, though sulphur exists in that fluid in minute quantities. This last also seems to be present in the urine in some peculiar state of combination; but by far the greater proportion exists in this fluid as sulphuric acid, united with the alkaline matter present; and Dr. Prout thinks he has seen a case "where the sulphuric acid, in a free state, acted as a precipitant of the lithic acid." Phosphorus appears to exist, both in blood and urine, in very minute quantities. Phosphoric acid, if existing at all in the blood, is in exceedingly small proportion; "but in healthy urine, it is met with, according to the best analysis, in about the same proportion as sulphuric acid;" and it often exists in the last in a free state, occasioning the precipitation of lithic acid. "Phosphoric acid, however, becomes most formidable, when the earthy bases, lime and magnesia, are secreted in greater abundance than natural; which, by combining with the acid,

form insoluble phosphates, and thus constitute by far the most distressing species of calculus and gravel." Murfatic acid, combined with soda and potash, occur both in blood and urine, and appear to pass from one to the other unchanged. The existence of fluoric acid is questionable. The two fixed alkalies are found in the blood as well as urine. Ammonia exists only in the latter. "No disease is known to arise from the excess or defect of the fixed alkalies; but the deposition of the earthy phosphates in the urine is almost always accompanied, if not immediately produced by an excess of ammonia." Lime, magnesia, and silex, appear to exist in the blood merely as elements; but in the urine they are in a saline state, in union with the phosphoric acid; and when these earths are in excess, the most distressing and dangerous forms of calculous complaints are produced. It has been stated, that silex is occasionally deposited in the urine, and even constitutes a part of urinary calculi; but these are extremely questionable positions. In minute quantities, however, silex is stated, by Berzelius, to exist in the blood. He supposes it to be derived from the water we drink.

How remarkable does it appear from the above sketch is the operative power of the kidneys on the blood. *Acidification*, however, constitutes the leading feature of this power. "Thus the sulphur and phosphorus of the blood are converted by the kidneys into sulphuric and phosphoric acids. A new acid, the lithic, is altogether generated. Sometimes "this acidifying tendency is carried to excess, and nitric acid, oxalic acid, &c. are produced;" at other times it is defective or subverted, and unchanged blood, albuminous matter, urea, sugar, ammonia, lime, magnesia, phosphorus, and sulphur, are separated by, or pass through the kidneys. The diseases connected with superacidification, are those of an inflammatory character, and in which the urine is high-coloured, and in small quantities; while, when the neutral or alkaline substances are in a diseased proportion, the accompanying maladies are those of weakness and chronic irritation.

*Tests.* — "Watery urine is usually limpid and colourless, and may be readily known by its low specific gravity, and the unnatural quantity in which it is voided." — "Urine, containing chylous albumen, is generally pale coloured, and on being exposed to a temperature of about one hundred and fifty degrees, becomes opaque, and deposits this principle in a coagulated state. The effect is increased by the addition of an acid, especially the nitric acid; but the most delicate test of albumen is dilute acetic acid, and the prussiate of potash." In order to detect an excess of urea, "put a little of the urine

into a watch glass, and add to it carefully nearly an equal quantity of pure nitric acid, in such manner that the acid shall subside to the bottom of the glass, from its greater specific gravity, and allow the urine to float above it. If spontaneous crystallization takes place, an excess of urea is indicated."—"If nitric acid and lithic acid exist in the urine together, it is exceedingly probable, or rather certain, that at the temperature of the human body, a portion of the lithic acid will be acted on by the nitric acid, and converted into purpurate of ammonia." To this purpurate is principally owing the pink colour in the sediment of urine, supposed by Prout to be formed of a peculiar acid, which he named the *rosaic*. When lithic acid and its compounds exist abundantly in urine, the fluid is almost always of a deep colour. When a free acid is present, the urine is, for the most part, uncommonly transparent, and without mucus.

The calculi of oxalate of lime, when burnt, yield quick lime. Benzoic acid is always prone to assume a crystalline form, and is remarkably volatile. The lime water test is the most accurate for carbonic acid. The xanthic oxide yields a yellow colour, when treated with nitric acid. Cystic oxide is soluble in alkalis and acids, and, when burnt, yields a characteristic odour. Sugar is discovered by its taste, by the absence of other ingredients, and by evaporation. Muriatic acid renders bile that is mixed with urine green. The peculiar smell and colour of the urine are said, by Berzelius, to depend upon the lactic acid, and its accompanying animal matters. Dr. Prout thinks this position questionable. To distinguish between mucus and pus is not often very easy; "they appear to run into one another, by imperceptible grades."—"The presence of sulphuric acid in the urine may be known by its yielding a precipitate, insoluble in nitric acid, or the addition of the nitrate of barytes." Phosphoric acid yields, with the nitrate of barytes, a precipitate, soluble in nitric acid, and again precipitable from that acid by ammonia. The muriatic acid gives a white, insoluble, curdy precipitate, "when the nitrate of silver is added to it, after the sulphuric and the phosphoric acids have been renewed by the nitrate of barytes." Fluoric acid corrodes glass. The alkaline salts may be obtained by evaporation to dryness. "There is no test for soda; but its salts may be recognised by their form. Potash may be known by the insoluble precipitate it forms with the muriate of platinum and ammonia, by its volatility and peculiar odour." Urine, containing an excess of phosphates, is usually of a pale colour. "The phosphates of lime and magnesia may be precipitated from the urine by ammonia." Silix is insoluble, except in the fluoric acid.

*On the Diseases of the Urine.*—Dr. Prout proposes a division of these into, first, *Diseases in which Principles, SOLUBLE in the Urine, are morbidly deranged*; and, secondly, *those in which the INSOLUBLE Principles are deranged*; and under the first of these general divisions, he includes the three subdivisions of disordered *albuminous urine*; those affections which are characterized by an excess of *urea*; and *diabetes*. An albuminous condition of urine is marked by irritability. “In slighter cases, there is generally a frequent desire to pass water, and, for the most part, decided diuresis. In severe cases, there is an inordinate craving for food, and other diabetic symptoms. It is a very important circumstance, that the albuminous principle found in the urine in these cases, has more resemblance to chyle than blood. “The disease is capable of being excited by a variety of causes;—as a long course of mercury, stimulant diuretics, violent passions of the mind, exposure to cold, &c.” In many instances, it appears to arise spontaneously. Its danger is, of course, to be inferred from degree and permanency. It exists often for a length of time without any suspicion on the part of the medical Practitioner.

*Treatment.*—Sedatives seem to be indicated in consequence of the irritable state of the system that frequently attends the separation of albuminous urine. Dr. Blackall endeavours to prove, that albuminous urine in dropsy calls for blood-letting. On the propriety of this practice, Dr. Prout does not seem decided. He thinks, however, that the mere abstract circumstance of the urine being albuminous in dropsy, is not in itself sufficient to justify venesection, as it may exist in combination with states in which such depletion would be objectionable; and, upon the whole, he is induced to conclude that “an albuminous condition of the urine, taken alone, as a *symptom*, does not, in the present state of our knowledge, indicate the use of any particular remedy or mode of treatment; but that, nevertheless, it is a symptom of which we ought to be always aware, since, taken in conjunction with the others, it may be occasionally useful in directing us to form a more correct judgment of the general nature of the disease.”

Urea appears sometimes in greater abundance than usual, as in febrile and other diseases, without calling for any particular treatment beyond that indicated from the general derangement, since it “is quite unconnected with any disease of the urinary organs, and appears to depend upon a diminished secretion of water only.” And in some other instances, an actual excess of urea, even as compared with the other ingredients, may be present, when the more obvious and

urgent symptoms are those calling especially for attention. But there are diseases in which the excess of urea in the urine may be regarded as actually characteristic; and Dr. Prout thinks they have been confounded with other ailments, as for instance, diabetes.

The average specific gravity of the urine in these complaints seems to be a little above 1.020, and occasionally to vary from 1.015 to nearly 1.030. Most generally it is pale, but occasionally it is high coloured, and exhibits somewhat the appearance of porter more or less diluted with water, and this variety in appearance not unfrequently takes place in the urine of the same person. When first voided it reddens litmus paper. For the most part, it is entirely free from sediment, except the mucous cloud of healthy urine; and the only remarkable property it seems to possess, is that of containing an abundance of urea, so that, on the addition of nitric acid, crystallization speedily takes place. From the quantity of urea present, it is prone to decomposition, and soon becomes alkaline, especially in warm weather."

A frequent desire for passing water is present. Sometimes there is a dull pain in the back is present, but not constantly. The pulse is not affected. The tongue is clean; and appetite and thirst, in many cases, ordinary. "There is a hollow-eyed anxious expression of countenance." The subjects of the complaint are generally middle-aged men, and have, for the most part, been addicted to masturbation from early youth. Opium and other sedatives are the medicines upon which principal reliance is to be placed in the treatment. Ten or twelve drops of the tincture of opium, two or three times a day, may be given in a glass of soda water; or solid opium, from half a grain to a grain and a half, may be administered, with alteratives and bitter infusion; the opium being the main ingredient in the curative plan. The symptoms of diabetes need not be detailed. Whether the disease be a consequence of the simple saccharine condition of the urine, or whether it depend upon some other cause, does not seem to have been satisfactorily made out; but the most probable cause of the increased flow of urine, Dr. P. seems to think, is that irritable state of the system which forms part of the disease. What is its immediate cause and nature? "That the functions of the kidneys are deranged there can be no doubt; but beyond this, I believe, we know nothing that is certain; at least," says our author, "I do not." The prognosis is always unfavourable. Animal diet, blood-letting, and opium, are the three alleged remedies which seem most entitled to attention. Dr. P., while he admits the general fact, that the first of these has a tendency to diminish the quantity of the urine, thinks it at best but problematical

whether it improves its quality. Blood-letting, too, "stands in precisely the same predicament." "I think, however," says Dr. Prout, "that there are stronger grounds for believing that blood-letting has improved the quality of the urine, than that animal diet has produced this change." Opium, as well in diabetes as the urea disorder, is thought, by our author, to be the most unequivocal in its efficacy. The above three remedies may be tried in conjunction.

"On taking a review of the three preceding chapters, we are naturally struck with the obvious analogy that prevails among the diseases treated of. The operations of the kidneys are, indeed, specifically different in each, being, in the first, apparently suspended only, in the second, inordinately increased, and, in the third, depraved; but notwithstanding this, the three diseases are more or less accompanied by a similar increased flow of urine and its consequences, and, probably, gradually run [pass], in some instances, into one another. Hence the symptoms in all are of the same general character, and differ little from one another except in degree. Thus there is the same hysteric irritability of the system, (if I may be allowed the expression,) the same hurried action of the kidney, and pallor urinæ, in all; and when the diseases are extreme, the same unnatural craving for food, and other symptoms, denoting an extraordinary drainage from the system. The exciting causes are, probably, of the same general character, and the prognosis, upon the whole, unfavourable in each; that is to say, the chance of a permanent cure is doubtful, though, in this respect, diabetes obviously far exceeds the others. Lastly, the general principles of cure in each closely resemble one another."

Under the second general head, Dr. Prout engages in a masterly disquisition on the subject of urinary gravel, and calculi. Aware that his arrangement of soluble and insoluble principles, if strictly followed, would oblige him to refer some of the calculous deposits, as of the earthy phosphates, to the first class, he apologises for this slight departure from his fundamental principles, by urging the propriety of considering, together, the theory and circumstances of calculous formation, or *mechanical* deposits from the urine. These, we are told, may be conveniently divided into three classes: 1. Pulverulent, or amorphous sediments; 2. Crystalline sediments, usually denominated gravel; and, 3. Solid concretions, or calculi, formed by the aggregation of these sediments.

The first of these, generally speaking, consist of two species of neutral saline compounds, viz., the lithates of ammonia, soda, and lime, tinged more or less with the colouring principle of the urine, and with the purpurates of the same bases; and constituting what are usually denominated pink and luteitious sediments; and, secondly,

the earthy phosphates, namely, the phosphate of lime, and the triple phosphate of magnesia and ammonia, constituting, for the most part, sediments nearly white. These two species occur often mixed together, though the lithates generally prevail.

The second order, or crystalline sediments, consist of, 1st, Lithic acid, nearly pure; 2d, The triple phosphate of magnesia and ammonia; and, 3d, Oxalate of lime. The first are by far the most frequent, and are always more or less of a red colour; the second are always white; and the third, which are extremely rare, are of a dark blackish green colour.

The solid concretions or calculi, are, First, The lithic acid calculus, generally of a brownish red, or fawn colour, with smooth surface, consuming before the blow-pipe, leaving a minute quantity of white alkaline ash, and completely soluble in caustic potash. Second, The lithate of ammonia calculus, resembling compact lime-stone, decrepitating before the blow-pipe, and soluble in the alkaline subcarbonates, which the first species are not. Third, The oxalate of lime, or mulberry calculus, called so from its black colour and rough surface; it expands into white efflorescence before the blow-pipe. Fourth, The cystic oxide is of a yellowish white colour, yields a peculiar odour before the flame of the blow-pipe, is soluble both in acids and alkalies. Fifth, The bone earth calculus is of a pale brown colour, it does not fuse before the blow-pipe, it is soluble in muriatic acid. Sixth, The triple phosphate of ammonia and magnesia calculus is always nearly white, it is soluble in dilute acids, from which it is again readily precipitated, by ammonia, in its original crystalline form. Seventh, The calculus, composed of a mixture of the two last, looks often like a mass of chalk; it is of very frequent occurrence; it melts with extreme ease before the blow-pipe, and dissolves readily in acids, and particularly in dilute muriatic acid. Eighth, The alternating calculus is most commonly formed of a lithic acid, or mulberry nucleus, and an external crust of the fusible calculus; its chemical characters must, of course, vary with its composition. The same may be said of the ninth, or mixed calculi. Tenth, The carbonate of lime calculus is extremely rare, they are easily detected by dissolving with effervescence, in acids, and other well known properties. Dr. Marcet, most of our readers know, has added two others, the xanthic oxide, and the fibrinous. And there are, Thirteenth, calculi found which are formed in the prostate gland, which are small and rather round, and consist of neutral phosphate of lime, tinged with the secretion of the prostate gland.

We have been purposely very slight in our general survey of these concretions, most of our readers having, we presume, either seen Dr. Marcet's work on calculi, or some of the analytical notices of it.

The following Table presents at one view the proportions in which these calculi are more or less frequent, according to the investigations of different districts, and the testimony of different authors.

General character.	Particular Species.	Hunterian Museum, Mr. Brande.	Norwich, Dr. Marcet.	Guy's Hospital, Dr. Marcet.	Manchester, Dr. Henry.	Bristol, Mr. Smith.	Particular Totals.	General Totals.
Lithic acid	Nearly pure.....	16	66	16			98	
	Mixed with a little oxalate of lime..			6	71	74	6	294
	Mixed with a little of the phosphates or oxalate of lime ..	45					45	
Mulberry		6	41	22	11	33	113	113
Cystic oxide..				1	2		3	5
Phosphates	Nearly pure.....	12			4		16	
	Mixed with a small proportion of the lithic acid ....	66			18		84	
	Phosphate of lime nearly pure ....		4	3		1	8	202
	Triple phosphate, nearly pure ....			2		1	3	
	Fusible, or mixed calculi .....		49	24		18	91	
	Lithic and mulberry		15				15	
Alternating Calculi	Mulberry and lithic				11	29	40	
	Lithic and phosphates .....				39	12	51	
	Mulberry and phosphates .....		1		16	32	49	
	Lithic, mulberry, and phosphates..							186
	Mulberry, lithic, and phosphates..	5			7		12	
	Fusible and lithic ..		1				1	
	Fusible and mulberry		2				2	
	Composition not mentioned ....			6		10	16	
Compound Calculi	Mixture not mentioned .....		2	7	8	8	25	25
		150	181	87	187	218		823

Dr. Prout maintains, that the lithic acid calculi are composed, some of the amorphous sediments, and some of the crystalline, but by far the greater number of a mixture of the two; and that all the lithic calculi which have an amorphous or earthy fracture contain more or less of the lithate of ammonia. With respect to the oxalate of lime calculus, it is remarkable that in the district of Bristol it appears to be much more frequent than elsewhere, while, in the Hunterian collection, it is inexplicably rare. The third species is exceedingly rare; and of the fourth, those composed entirely of the phosphates bear a small proportion to those composed principally of them. Dr. Prout states, that in every collection he has seen, the fifth, or alternating calculi, has been strikingly great; and in this part of his annotation, he calls the reader's attention to the remarkable fact, that out of eight hundred and twenty-three calculi, only three specimens are stated to exist, in which the phosphates have been followed or surrounded by other calculous deposits. "The law, therefore, that a decided deposition of the mixed phosphates is not followed by other depositions, appears to be general, and a most important one it is." The compound calculus is rare, and our author complains of some want of precision with regard to the term.

The mechanical deposits from the urine are, then, made up of four elementary substances. 1. *The lithic acid and its compounds.* 2. *The oxalate of lime.* 3. *The cystic oxide.* And, 4. *The earthy phosphates*; two or more of which principles are seldom or never found in excess at the same time.

"The preceding order has been adopted for the following reasons: the lithic acid or its compound, the lithate of ammonia, not only constitutes the most frequent constituent of calculi, but is that which most generally gives origin to the other species, by furnishing a nucleus, round which the matters composing them may concrete: it may, therefore, justly claim to be considered in the first place. Next to the lithic acid, the oxalate of lime species of calculus seems to possess most strongly the characters of an original diathesis, from the frequency with which it gives origin to renal nuclei. The cystic oxide is extremely rare; but it seems to originate most frequently in the kidney, and, moreover, has the property, when present, of excluding other diatheses. The phosphates naturally fall to be considered in the last place, from the circumstance that they very rarely constitute entire calculi, but succeed to the other diatheses, and are themselves very rarely, if ever succeeded by any other diathesis."

*Lithic acid, diathesis, and its correctives.*—Its exciting causes in the predisposed, are errors in diet, inordinance of exercise of mind or body, particularly after eating, with too little exercise at other times, and debilitating circumstances.

These circumstances occasion the amorphous sediments, which appear, first, of a yellowish, or nut-brown colour; secondly, in the form of reddish or *lateritious* sediment; and, thirdly, pink deposits. The first may be called the sediments of health, being the result of only slight derangements. The second show the presence of purpures, and are the marks of febrile irritation. In gout, this sediment is very general. The pink sediments owe their colour chiefly to the purpate of ammonia. They occur often in the urine of dropsical and hectic patients.

The crystalline sediments likewise occur in the urine of healthy individuals, from excess of diet; but they are generally habitual. From what has been before stated, it may be inferred, that the precipitation of crystallized lithic acid does not necessarily indicate an excess of this acid in the urine, but the presence only of some free acid in that fluid. Most generally this appears to be the *phosphoric*, sometimes the *sulphuric*. Dr. Prout thinks he has seen it take place from the nitric and erythric acids; and even the carbonic acid may cause the precipitation. The circumstances which give rise to sediments are natural or acquired — hereditary tendency cannot be denied; but sometimes the diathesis appears to be generated by indolent habits, and excess in eating and drinking. The greater frequency of calculi in some districts, even of our own island, as in Norwich, for example, has not hitherto been satisfactorily accounted for.

*Prognosis.* — “Amorphous sediments are more formidable in proportion as they are whiter, or of a more pink colour. When pale, they denote in general a tendency to the phosphates; and when of a pink colour, generally some organic or other deeply-seated disease.” — “A constant deposition of lithic acid crystals in large quantity, will almost certainly, sooner or later, end in the formation of a calculus.”

*Correctives.* — Much food and wines, especially those which are *ascenscent*, must be abstained from, and heavy, unfermented bread, hard boiled and fat puddings, salt and dried meats, must be avoided by those who are disposed to urinary sediments; attention, likewise to the cutaneous function, is very necessary. When these sediments are actually crystallized, or gravelly, still more care as to the diet is requisite. Now the use of the alkalies is particularly indicated, but they must be joined with alteratives and purgatives. A little magnesia in a glass of soda water is a very useful way of combining the two principles. “If acidity of the stomach and flatulence be present, the Prussic acid may be given with great advantage.” Opium and hyoscyamus, especially the

latter, may be employed to allay irritation. If gouty action be present, the colchicum is indicated. In an actual fit of the gravel, as it is called, more active measures are often necessary, as venesection, cupping on the region of the kidneys, the warm bath, fomentations, and diuretic purgatives. If to the violence of the disorder succeed symptoms indicating some chronic local disease of the kidney, "a large galbanum, or other plaster, may be applied to the lumbar region, or an issue or seton may be inserted in the neighbourhood of the kidney with great advantage."

Dr. Prout conceives, that the oxalate of lime diathesis consists more especially in a deranged action of the kidney; but that the general indications of treatment are the same as in the lithic acid tendency.

To a diseased or depraved action of the kidney is also referred the cystic oxide diathesis. Of its medical treatment we are, at present, ignorant; but it is most probably of the same general nature with that of the lithic acid diathesis.

The phosphatic or earthy diathesis decidedly displays itself under two conditions. We have, first, the *amorphous* deposits; and, secondly, the *crystalline*. A deposit of the earthy sediments is always accompanied by a considerable degree of derangement, both topical and general. There is pain, or uneasiness, or weakness in the back or loins; sallow, haggard expression of countenance, disordered digestion, and, if the disease be not checked, symptoms somewhat resembling those of diabetes begin to appear. The urine is pale-coloured, and voided in rather greater than a healthy quantity. It is extremely prone to decomposition, becomes alkaline by the evolution of ammonia, and emits a most disgusting smell.

Dr. Prout has found the greater proportion of phosphatic cases that have come under his care traceable to *some injury of the back*. Severe and protracted passions, of a debilitating nature, may prove likewise an exciting cause; and the local excitations are irritations about the bladder or urethra, "including all sorts of calculi;" it is a circumstance well known and worth remarking, in reference to our author's views in respect to the formation of the diathesis now under notice; that any foreign substance introduced into the bladder almost invariably becomes incrustated with the phosphates, and not the lithic acid.

The proximate cause of this form of the disease, or rather its actual constituent, is "a diminished or suspended action of the usual acidifying powers of the kidneys, and the formation, instead of lithic acid, of a greater quantity of alkaline matter

than natural, as urea, (equivalent to ammonia) lime, and magnesia.

The prognosis is unfavourable, if the disease has continued long, especially if it has been occasioned by some injury of the spine.

The second species, or crystalline deposits, are almost invariably made up of the triple phosphate of magnesia and ammonia, and exist in the form of perfectly white shining crystals. They are accompanied often by the amorphous deposits, and arise from the same causes, sometimes acting more slightly. A long course of alkaline medicines have been accused of producing them. The induced disease is, in the general way, to be considered as a slighter affection than the former.

*Treatment.* — “The indications of cure to be attended to in these forms of disease, appear to be two; to diminish the unnatural irritability of the system; and to restore the state of the general health, and particularly of the urinary organs, by tonic and other appropriate remedies.” Opium is the best medicine to fulfil the first indication, which must be given to the extent of from one to five grains, two or three times a day. The mineral acids, cinchona, uva-ursi, different preparations of iron, and other tonics, may likewise be had recourse to. To the region of the loins may be applied a pitch, or galbanum plaster; and setons or issues may be instituted in the back, should the symptoms indicate local injury. The purgatives are to be mild, such as small doses of castor oil, or laxative injections. All *alkaline* medicines must be most carefully avoided. In incipient and mild cases, the combined use of muriatic acid, uva-ursi, and hyoscyamus, together with alterative purgatives, will prove abundantly serviceable. The diet should be at once mild and nutritious. Animal food, in the general way, is better than vegetable; but all watery aliment, as soups, &c., should be taken very moderately. The mind must be freed from anxiety, as a very important part of the curative means.

The lithic and oxalate of lime diathesis will sometimes run into the phosphatic diathesis; the symptoms marking the first transition are the paleness, and sometimes increased quantity of urine, pale amorphous sediments, the appearance of a pellicle on the surface of urine, after it has stood a few hours, which, upon examination, is found to consist principally of the triple phosphate of magnesia and ammonia; this, after a short time, becomes putrid, yellow, and sometimes crystalline. In this second stage of transition, the lithate of ammonia becomes still less in quantity. When the oxalate

of lime diathesis tends to the phosphatic, the change is marked by an excess of secreted lime, which, when there is a calculus, constitutes its external crust.

We are sorry that our limits say nay to our wish of giving a full analysis of the last chapter of this interesting work, in which are considered the modes of formation, and future increase of calculi, with the symptoms produced by the different varieties, and the particular treatment required, according as the calculus shall be lodged in one or other situation.

"*The primary nuclei of calculi,*" says Dr. Prout, "consist, for the most part, of lithic acid; occasionally of the oxalate of lime; rarely of cystic oxide; and still perhaps more rarely of the phosphates. In some cases, also, coagulated blood, mucus, and similar substances, have appeared to constitute the primary nucleus." In consequence of the kidney being made up, as it were, of several little kidneys, our author conceives that their actions may not always correspond with respect to degree, and one part shall secrete a large portion of lithic acid with very little water, and thus form a *hydrate*, or semi-fluid mass; this may, from its bulk, occupy the whole of that infundibulum into which it has been deposited, and after some time, crystallization may take place, and the mass may now become separated and pass off in the form of gravel, "or, what may be easily supposed, it may assume the form of an imperfectly crystallized, or amorphous mass, and thus constitute a nucleus possessing these characters." The oxalate of lime formation "may admit of an explanation, by supposing that a solution of oxalic acid, nearly in a saturated state, and perhaps in union with a little time, is secreted by a portion of one of the kidneys, instead of the lithic acid, as in the former case; that this, enveloped in the usual animal matters, passes from the infundibulum into the pelvis of the kidney, and there meeting with the lime naturally contained in the urine, secreted by the other parts of the kidney, instantly combines with it and forms the compound in question." Calculi of cystic oxide are rare; they may exist in the kidney in the state of hydrate; and the nephritic calculi, composed of the phosphates, are also extremely rare. This diathesis is almost always consequent to others, as above explained.

The symptoms and general treatment of renal calculi, as acute affections, we must suppose the reader acquainted with.

Vesical calculi are furnished, for the most part, by the kidneys, upon the retention of the substance in the bladder. A *secondary* nucleus is formed: "sometimes, though much more rarely, this nucleus consists of a clot of blood, or

hardened mucus; sometimes of a foreign substance, introduced into the bladder."—"A calculus in the bladder may be considered as a substance placed in a solution of various principles, in a certain quantity of water. If any one of the more insoluble of these principles exist in this solution, in a state of *supersaturation*, the calculus will afford a nucleus, round which the excess will be deposited." The laminated structure of the concretion, proves that the growth of calculus is not regular but at different periods.

The lithic acid calculi are the least severe in the symptoms they produce. The symptoms attending the mulberry calculi are more urgent. We infer the existence of this negatively. Thus, "if all the symptoms of calculus be present, and particularly if a stone be actually known to exist in the bladder, and if the urine be clear, and deposits neither lithic acid nor the phosphates, there is ground for a fair presumption that the calculus present is either composed of the oxalate of lime, or of the cystic oxide."

The calculus composed of the phosphates produces exceedingly distressing symptoms, and one great difference from the others which it displays, is the constitutional affection which it occasions. This may be inferred and explained by what has before been advanced.

In the general treatment of stone, as far as the abatement of violent symptoms is concerned, it must be recollected, as an important principle, that hyoscyamus is generally to be preferred in the lithic acid diathesis, and opium in the phosphatic; the latter medicine seeming to have an especial tendency to increase the lithic acid.

The seventh and last chapter of the work before us contains "General observations on the periods of life, sex, climate, &c. most subject to calculous affections; on the mortality attending the operation of lithotomy, with observations on the circumstances in which it ought, or ought not, to be recommended."

It appears that nearly one half of the whole number of stone cases occurs before the age of puberty, and there is an increase of number in adults about the age of forty years. The proportion of males to females afflicted with stone is also exceedingly large. The phosphates are more frequently perhaps found to be deposited in children than in adults, from the tendency which their irritability of habit gives to transition. That females are less liable to stone than males, is partly referrible to the difference between the length of the urethra in the two sexes, and partly to the more regular and sober habits of the female.

The mean ratio of mortality from lithotomy is about one in seven three-fourths; and the mortality in the Norwich

hospital, for the last forty years, in reference to age, has been before puberty one to eighteen, after puberty one to four three-eighths. Thus is the propriety clearly established of operating early "in all cases of calculus occurring before puberty, of whatever species they may be."

"The operation of lithotomy may be frequently postponed under the following circumstances; namely, when the calculus is small or of moderate size, and of the lithic acid species, and when the lithic acid diathesis is steadily present, and particularly if the patient be, in the prime of life, the constitution, &c. sound, and the sufferings comparatively moderate; *provided always that the patient will conform to the necessary plan of regimen, &c. calculated to remove or diminish the diathesis, and thus to prevent the increase of the calculus.*"

Dr. Prout, in conclusion, expresses his scepticism on the subject of *solvents* for stone, which at one time so much occupied the attention of Practitioners; at least, he says he knows nothing satisfactory respecting them, and, therefore, avoids the subject altogether.

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### PART III.

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#### SELECTIONS.

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*Observations on the Effect of dividing the Eighth Pair of Nerves—communicated in a Letter to the Editor of the Quarterly Journal of the Royal Institution, by CHARLES HASTINGS, M.D., Physician to the Worcester Infirmary, &c.*  
 [From the Quarterly Journal of Science, Literature, and the Arts.]

THE division of the eighth pair of nerves is one of the oldest physiological experiments; and a reference to medical writings shows, that the effects produced by it on the animal system have been the subject of frequent discussion. Among our contemporaries, especially, it has excited considerable interest, and the apparent connexion of the most important vital functions with these nerves, has given birth to various speculations. Of these it is not my intention to give any detail. The object I have in view being to bring before the reader some facts, showing the dependance of the digestive power of the stomach on these nerves.

My attention has been more particularly directed to this subject by a writer who has recently occupied several pages of your Journal, in endeavouring to prove that the division of the eighth pair of nerves is not necessarily followed by an immediate cessation of digestion; but, on the contrary, that

digestion continues after the division of these nerves, as long as the animal is otherwise in a condition to digest\*. The above conclusion Mr. Broughton derives from a series of experiments, and declares, that from a general review of the testimony of former authorities, he cannot perceive that the conclusion to which his experiments have brought him essentially differs from past experience, though it is absolutely at variance, in a most important point, with that of Dr. Wilson Philip and his supporters†.

It is somewhat singular that Mr. Broughton, after having so carefully studied, as he seems to have done, the testimony of former authors, should not be able to perceive that his conclusion is absolutely at variance with that of several physiologists who have divided the eighth pair of nerves. Even Willis, who performed this experiment principally with a view of ascertaining its effects on the action of the heart, seems, in part, to have attributed death to the state of the stomach. Baglivi thinks that the animals submitted to it sometimes die of inanition; and Valsalva remarks the frequent efforts to vomit, and the derangement of the digestive organs. Haller mentions the dyspnoea which succeeds the division of the nerves; but the gastric symptoms seem more particularly to have attracted his attention. In each of his experiments he expressly states that the digestive powers were completely annihilated, and that the contents of the stomach became putrid. Blainville confirms Haller's experiments, and considers the principal cause of death to be the abolition of the digestive powers.

Dr. Haighton, in his inquiry relative to the reproduction of nerves, had a good opportunity of observing the effects of wholly and partially withdrawing the influence of the eighth pair of nerves from the stomach. He states, that in those experiments in which he divided both of these nerves at the same time, their action being suspended, those vital organs which receive their nervous energy from this source, had their functions arrested, so that death followed as a necessary consequence. But when he allowed an interval of six weeks to elapse between the division of the two nerves, the functions of the stomach were deranged, not arrested. "The actions of the stomach," says he, "were, for a long time, evidently deranged, so that the dog was continually harassed with symptoms of indigestion, and six months had nearly elapsed before he recovered his health, though, during five months of the time, he took his usual quantity of food. Now to what cause are we to impute his recovery? The most probable

\* See Journal of Science and the Arts, No. xx. p. 303.

† Ibid. p. 310.

one appears to be, that in the interval of six weeks the first nerve had been reproduced; so that the action of those organs depending on this nerve, though somewhat disturbed, were not suspended. But, as the union of the second nerve advanced, and the reproduction of the first became more perfect, the vital organs gradually recovered their healthy state."

Dr. Macdonald, in his inaugural dissertation, "*De Cibo- rum Concoctione*," after relating various experiments in which he observed digestion in the healthy stomach, details the appearances that were presented to him after the division of the eighth pair of nerves. He says, that although the meat which he gave to the animals was cut into very small portions, so as to be in the most favourable state for digestion, and a sufficient space of time was allowed to elapse between the performance of the experiments and the death of the animals, yet the meat was undigested, and never passed beyond the pylorus; neither could any chyme, or chyle, ever be discovered in the stomach, intestines, or lacteal vessels.

Moreover, in Mr. Brodie's experiments, after the food had continued in the stomachs of animals whose nerves had been divided seven hours, the food had still the appearance of masticated parsley\*. And in those of Dr. Clarke Abel, to which Mr. Broughton has made no allusion, it was found, that in those rabbits in which the nerves were divided, and galvanism was not applied, the stomach was greatly distended: when slit open from the pylorus to the cardia, it disclosed a continuous mass of masticated parsley, of a dark green colour, and of its natural odour†.

From the above statement it is evident that Mr. Broughton's conclusion is not only absolutely at variance with the experience of Dr. Wilson Philip, but also with that of the authors quoted. It is also, as it appears to me, absolutely at variance with the testimony of Le Gallois; although an opposite opinion is held by Mr. Broughton. I do not find that Le Gallois any where denies that the functions of the stomach are greatly disturbed by the division of the nerves in the neck. On the contrary, his experiments seem to confirm those authorities which mention the suspension of the digestive functions. Neither does he any where attribute the state of the stomach to the disturbance of the functions of the respiratory organs; indeed he declares that the stomach is sometimes even more affected than the lungs. "*L'affection de l'estomac est en général beaucoup plus grave que*

\* See the Correspondence between Dr. Philip and Mr. Brodie.

† Medical and Physical Journal, No. cciv. p. 388.

calle du cœur, car les fonctions du premier de ces organes éprouvent un dérangement beaucoup plus grand que celles du second. Je pense même que dans certains cas, de toutes les fonctions lésées par la section de la paire vague, celles de l'estomac le sont au plus haut degré \*."

It is true that he believes the contents of the stomach never acquire any peculiar putridity; of which he was satisfied by repeatedly examining the milk in the stomachs of young rabbits. He does not, however, hence infer, that there is not a cessation of digestion, but that those authors are mistaken who consider the corruption of the contents of the stomach the cause of death. "L'affection de l'estomac est en général plus grave. Elle l'est à différens degrés, suivant les espèces. Mais on ne trouve dans ce viscère aucun état pathologique bien prononcé, si ce n'est quelquefois un léger état de phlogose. Il ne paroît pas que les alimens qu'il contient acquièrent aucune corruption particulière; et lors même que cela auroit lieu, il est fort douteux que cette corruption, non plus que l'abolition entière des fonctions de l'estomac, pût être la cause immédiate de la mort. En un mot, la mort survient à une époque et avec un appareil de symptômes qui ne permettent pas d'en placer la cause dans l'estomac †."

In fact, the object of Le Gallois evidently is to prove that the suspension of the functions of the stomach is not the cause of death, (both he and Dr. Wilson Philip regard the affection of the lungs as the cause of death): but he never asserts that such a suspension does not really occur. Nay, he expressly states, that although young guinea pigs do not survive the division of both nerves a sufficient length of time to afford an opportunity of ascertaining the state of the stomach, yet, from the effects produced by the division of one nerve, there can be no doubt that digestion altogether ceases when both are divided.

"Il est clair que dans cette expérience l'estomac avoit entièrement perdu la faculté de digérer, et celle de pousser les alimens dans les intestins. Cet effet n'a pas toujours lieu après la section d'un seul nerf, mais on ne peut guère douter que la section des deux nerfs ne le produise constamment, surtout quand on considère combien, dans ce dernier cas, les cochons d'Inde sont tourmentés par les nausées et les efforts pour vomir. Or, après la section des deux nerfs, les cochons d'Inde de l'âge de celui dont il est ici question, périssent dans l'espace de trois ou quatre heures, et quelquefois plus promptement encore ‡."

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\* Expérience sur le Principe de la Vie, p. 214.

† Ibid. p. 233.

‡ Ibid. p. 216.

He afterwards observes, that although the digestive powers are, in these cases, completely destroyed, it is not at all fair to conclude that this is the cause of death in the guinea pig, and much less so in the rabbit; in which animal the gastric symptoms are less severe. Is this maintaining that digestion goes on after the division of the nerves? Is this denying, as Mr. Broughton asserts Le Gallois does, the occurrence of the loss of power in the stomach to digest food after the division of the eighth pair of nerves? Mr. Broughton says, that many authors deny this effect, but does not mention the names of any of these numerous writers, and I have, in vain, searched for them. Several authors, no doubt, who have divided the nerves, have confined their observations to the effect produced on the voice, the heart, or the lungs, without noticing the state of the stomach: but none of those, so far as my knowledge extends, who have directed their attention to this point, deny the suspension of the functions of the stomach; and I am, therefore, led to conclude, that the testimony of the authors, to whom Mr. Broughton alludes, would, on inquiry, be found as inimical to his views as that of Le Gallois.

Having shown that Mr. Broughton is not, as he supposes, supported by previous authority, I shall beg, as succinctly as possible, to detail the result of my own experience; premising, however, a few observations on the changes which, in given periods, the food undergoes in the stomach of healthy animals, in order that the misapplication of the term *digestion*, into which Mr. Broughton has fallen, may not mislead his readers.

If the stomach of a rabbit be examined immediately after it has eaten, the new food is never found mixed with the old; and the only change in its appearance is that which is produced by mastication, and the admixtures of those fluids which may be met with in the stomach. The degree of moisture, therefore, at this period, very much depends on the kind of food that has been eaten. If, on the contrary, the animal be allowed to live four or five hours after a meal, the food last taken into the stomach is found considerably altered. It is still, however, retained in the cardiac portion of the stomach, but is much softer, from the greater abundance of the secreted fluids. Nevertheless, the centre of the new food is still only slightly changed. If a still longer period be allowed to elapse between the last meal and the death of the animal, that is, from twelve to eighteen hours, the change in the food last taken will be found nearly complete. The whole of the contents of the cardiac portion of the stomach, which are, at this time, much less than immediately after a meal, are now in a pulpy semi-fluid state, frequently containing the small round balls which have been particularly described by Sir Everard Home and Dr. Wilson Philip.

The food, whether the animal have or have not lately eaten, is drier in the pyloric portion of the stomach, and a distinct line of separation may generally be drawn between the cardiac and pyloric portions.

The state of the duodenum, gall bladder, and lacteals, also varies, according as the animal has been killed, soon after a meal, or after a long fast. If the animal be killed at no great length of time after a meal, the duodenum is found to contain much chyme, the lacteals are filled with chyle, and the gall bladder is flaccid; but if eighteen or twenty hours be allowed to elapse between the last meal and the death of the animal, the duodenum is found nearly empty, no chyle is seen in the lacteals, and the gall bladder is much distended. Of the accuracy of the above statement, which is supported by the testimony of other writers, I am assured, by repeated experiments on dogs and rabbits. A few of these, in order that the healthy appearances of the stomach may be more directly contrasted with those presented after the division of the eighth pair of nerves, shall be here related.

(To be continued in our next Number.)

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## PART IV.

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### FOREIGN MEDICAL SCIENCE AND LITERATURE.

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*Extract from a Memoir on the Mechanism of Absorption in Red and Warm-Blooded Animals. By M. MAGENDIE.*

(From the *Revue Médicale*, for February, 1821.)

ABSORPTION, although one of the most general and interesting of animal functions, has hitherto been treated of with less precision than any other. Authors, for the most part, instead of setting about a search for facts, in order satisfactorily to solve the difficulties connected with the function, have confined their observations to mere speculative views. They have conceived absorption to be effected by a particular agency, to which they have found it convenient, in a vague manner, to ascribe every thing connected with the phenomenon. They have, in fact, endowed this agency, and the often invisible organization by which it has been supposed to be exercised, with voluntary power, selecting judgment, and other faculties which imply rationality, an error which has been at all times too common among philosophers, of creating existences by their own imagination, and then attributing to them the desires, and passions, and habits of man. True it is, that nothing was further from proof, than the

existence of this assumed organization; but the assumption of the thing served as a substitute for the thing assumed, and thus did theory establish itself insensibly upon a mere sandy foundation; and what was thus mere fancy, came implicitly to be received as science and truth.

The only satisfactory mode of searching for the laws of absorption, is to commence by ascertaining what are the actual organs by which the faculty is exercised. This is what Magendie proposed to effect, by a series of experiments instituted for the purpose; and the following are the deductions to which his experiments have led:—

1. The red veins are endowed with an absorbing power.
2. It is by no means proved, that the vessels by which chyle is absorbed are capable of absorbing any thing beside chyle.
3. The absorbent power of the lymphatic vessels, beyond that of chyloferous absorption, is not by any means proved.

Magendie, in the first place, endeavoured to ascertain, by experiment, the influence upon absorption, which should be excited by a state of fulness in the sanguiferous vessels. Having injected into the veins of a dog a certain quantity of water at 40°, he then introduced into the pleura a solution in alcohol of nux vomica, the absorption of which was proved by its speedy and powerful effects; the effects, however, were not so immediate as had been the case when the veins had not been thus previously injected; and in repeating the experiment with a still greater quantity of injected water in the veins, he found that the effects of the poison were, in the same measure, more tardy in showing themselves: at length, having thrown in as much water as it was possible for the animal to receive, while he continued alive, the poison which, in ordinary circumstances, would have operated in less than two minutes, had not affected at the end of half an hour.

The condition of the blood-vessels, in reference to their plenitude, was shown, by these experiments, to possess a considerable influence upon the absorbing power. What then it became interesting to ascertain, would be the effects of an opposite state of these vessels? This was likewise put to the test of experiment, in the following manner:—A dog having been largely bled, the same quantity of nux vomica solution was thrown in, as in the former experiments, and the poison manifested itself in a little more than half a minute, while, under ordinary circumstances, it would have required two minutes to have produced the effect.

The veins of another dog, were opened, and a given quantity of blood having been withdrawn, it was replaced by an equal quantity of water: in this case, the absorption of the poison took place about the ordinary time.

The facility with which absorption is accomplished, was proved, by these experiments, to have reference to the interior pressure which the absorbing vessels sustain; the faculty then is shown to have something in it of a mechanical nature, and to be excited by capillarity.

This being the case, we should expect the same results from experiments upon the vessels after the cessation of life as during its continuance; and this supposition experience has confirmed.

A vein was placed in some acid liquid, with its two extremities projecting from the liquid, then a stream of warm water was directed through the vein by its orifices, thus, not engaged with the liquor into which the vein was immersed; and after continuing this injection for some little time, the current of water which passed out at the lower orifice of the vein was sensibly impregnated with acidity. This fact then proved a communication between the interior of the vein and the liquid which surrounded it; in fact, it showed an actual venous absorption.

Another experiment was made by inserting into the pericardium of a dog, killed the preceding evening, a mixture of water and acetic acid; a stream of warm water was then thrown into a branch of the coronary artery, and, at the end of a few minutes, it returned by the coronary vein with decided marks of acidity. In this case there was an absorption from the surface of the heart of the acid liquor contained in the pericardium; and it is thus proved, that the faculty is exercised after death, as well through the medium of the smaller as of the larger vessels.

It only then remained to be demonstrated, by actual experiment, whether absorption is accomplished in the same manner, and under the same circumstances, during life. This fact might be considered sufficiently established by the former experiments, as far as the smaller ramifications of blood-vessels are concerned; but that the larger vessels act in the same manner, the evidence was hitherto only presumptive; and in order to ascertain the fact, one of the jugular veins of a young dog was laid bare, and being carefully separated from all the surrounding parts, was isolated by a piece of card; the iux vomica solution was then applied to its surface, and the usual effects of the poison manifested themselves, at first slowly, but afterwards with a considerable intensity. The same experiment made upon an artery gave the same results; but in this last case the effects were a longer time in occurring, owing manifestly to the greater thickness of the vessel's tunics.

It is easy to conceive why, in these two last experiments, the operation of the poison was not so quick as in the pre-

ceding instances, since the substance had not only to penetrate through thicker coats of vessels, but the absorbing poison had also a less surface to operate upon in the latter than in the former experiment, in which the poison introduced into the chest came in contact with the whole extent of the pleura.

By this method of explaining absorption, we explain a number of other phenomena in the living system otherwise inexplicable; for example, the principle upon which dropsies are cured, the relief from congestion and inflammation produced by blood-letting, the want of efficacy in medicines during those febrile states of the system in which the vascular system is greatly distended; the propriety of that practice which institutes blood-letting and purging prior to the administration of other active medicinals, the rationale of both partial and general dropsies, under circumstances of cardiac or pulmonary disorders; the use of ligatures upon limbs after the bite of venomous animals, in order to prevent the consequences of such accidents, &c.

Such are the principal facts contained in the memoir of Mr. Magendie: besides the influence which his discoveries will operate upon practical medicine, they further render evident the application of physical laws to physiological science.

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## PART V.

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# MEDICAL AND PHYSICAL INTELLIGENCE.

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### *Biographical Notice of the late Dr. GREGORY of Edinburgh.*

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It is with no common feelings of regret that we announce to our readers the death of this distinguished Physician, which took place at Edinburgh, on Monday, April 2. We have never, perhaps, had to record a loss which will be so strongly felt by the great body of medical Practitioners in this country. There are few of them who are not proud to trace some portion of their success in life to the instructions of this veteran teacher. For above thirty years he annually taught the medical Students of the University of Edinburgh the most important part of their professional duties; and to his great talents and distinguished character much of the eminence of that sort of learning may justly be ascribed. His class was crowded by the studious of all countries; and, in consequence of such admiration of his abilities, and a reverence for his character, have extended, not only as far as the English language is spoken, but as far as the light of civilization has spread in the

world. We are sure we should only be echoing a very general sentiment were we to add, that there is probably no scientific man of the present age whose name is so universally revered, or whose instructions have diffused over so wide a sphere the means of relieving human distress,

In this persuasion, we have felt that we could not confer a greater favour upon our readers, than by presenting them with a few particulars regarding the life and writings of the late Dr. Gregory. In the fulfilment of this task we have been contented to avail ourselves of such materials as are immediately before us, rather than attempt a more elaborate memoir hereafter; believing that, in this manner, we shall most effectually meet the anxieties of our readers.

Dr. James Gregory was descended from an ancient family in Aberdeenshire, which for above two centuries has enjoyed a distinguished name in the annals of science, and been particularly eminent for mathematical genius. It is a remarkable fact, that a great number of the descendants of this family have filled, with great repute, professional chairs in different Universities.

Dr. Gregory's father was professor of medicine, first in Aberdeen, and afterwards in Edinburgh. His grandfather was professor of medicine in Aberdeen. His great grandfather, the celebrated cotemporary of Newton, and inventor of the Gregorian telescope, was professor of mathematics, first at St. Andrew's, and afterwards at Edinburgh. The other branches of the family equally contributed to support, in this respect, the honour of the name. The elder, being that of the Gregories of Kinardy, even boast of a much larger number. Among them may be noticed Dr. David Gregory, professor of mathematics at Edinburgh and Oxford, the father of Dr. David Gregory, formerly Dean of Christ Church; Mr. Charles Gregory, professor of mathematics at St. Andrew's; his son, Mr. David Gregory, who succeeded him in the same chair; and, lastly, the celebrated Dr. Reid, professor of logic at Glasgow.

Dr. John Gregory, well known to the medical profession by his admirable "*Lectures on the Duties and Qualifications of a Physician*," and to the world in general as the author of "*A Father's Legacy to his Daughters*," left three sons and two daughters, by Elizabeth, daughter of William, Lord Forbes, a lady who, to great beauty and engaging manners, joined a very superior understanding, and a more than common share of wit. The eldest son, James, (the subject of the present memoir), was born at Aberdeen in January, 1753, and received the rudiments of his education at the grammar school of his native place. During the winter 1764-5 he studied at King's College, Aberdeen: from that University he was re-

moved next season to Edinburgh, and the following year was entered of Christ Church, Oxford. He resumed his studies at Edinburgh towards the close of 1767, and continued there until the winter of 1773, when he was sent to London to prosecute his medical education. Here he became a pupil of St. George's Hospital. The pleasure with which he looked back upon this event of his life was often mentioned by him, and he had an opportunity of publicly testifying it last year, when he attended the annual meeting of the gentlemen educated at that hospital. In June, 1774, he graduated at Edinburgh. His thesis is entitled "*De morbis cœli mutatione medendis.*" It treats, in detail, of phthisis pulmonalis, hypochondriasis, and gout; and concludes by noticing the advantage of change of air in the prolonging of human life. It is marked by the same elegance of composition for which he soon after became so conspicuous. As a medical work it is chiefly interesting, as containing a very clear exposition of the doctrine of *irregular distributions of blood*. During the whole of the year 1775 he was on the Continent; and in the course of his tour visited Holland, France, and Italy. Many of his letters, written at that time, are still extant, and prove that he was feelingly alive to all the beauties of nature, and a fervent admirer of the treasures of ancient art. Those who enjoyed the pleasure of his society well know with what delight he recurred to the incidents of this tour.

In June, 1776, he was appointed, at the early age of twenty-three, to the professorship of the Theory of Physic, and he continued to teach this class with great distinction for twelve years. As a text book for his lectures, he published in 1779-80 the first part of his *Conspectus Medicinæ Theoreticæ*. The work was complete in two large octavo vols. in 1782. It rapidly acquired a high reputation all over Europe; not only in consequence of the scientific merits it possessed, but the singular felicity of classical language in which it was written. Several editions of it have since been published; but it is greatly to be regretted that it never received from the author those additions and alterations which were required to adapt it to the present state of physiological, and more particularly of chemical science. Hence its value is now considerably diminished to the student of medicine; but it is still perused with the highest advantage for the general principles of the science; and, as a model of classical latinity, it will probably remain unrivalled.

In the year 1790, Dr. Gregory was appointed, in consequence of the death of Dr. Cullen, to the chair of the Practice of Medicine, and for thirty-two years he sustained, and even increased the celebrity which the eminence of his predecessor had conferred upon the office. His lectures, besides their

intrinsic merit as the vehicles of sound medical learning, were characterized by a richness of illustration, which we imagine to be quite unprecedented. From very early infancy Dr. Gregory had been remarkable for a most retentive memory, and this he had diligently cultivated. The advantages which it gave him as a teacher of medicine are incalculable. He has been frequently heard to describe cases, which occurred in the earliest years of his practice, with a freshness and *particularity* of detail, which made them appear like the observations of the day. No case ever seems to have escaped his memory, which could enforce some principle of pathology or practice; and he could draw, therefore, *almost ad libitum*, upon these stores, for the most striking illustrations of the doctrine he was inculcating. This it was, which appears to us, in a great measure, to have given that charm to his class-room, which all his pupils acknowledged, and which sent them back to their homes with feelings of reverence for his character, more resembling that which the disciples of antiquity entertained for their instructors, than the regard for a teacher commonly manifested in the present state of society.

Of the effect of Dr. Gregory's lectures upon the general character of medicine, as practised in this country, it would be difficult for us to speak in terms adequate to our sense of its extent. To them we would attribute, in no small degree, that boldness and decision of practice, that just understanding of the powers of medicines, and that general candour which disdains the cloak of affected importance, by which we may, without the imputation of vanity or prejudice, characterize the medical practice of this country. It is much to be regretted that he never carried into execution the design which he had long contemplated, of publishing a *Conspectus Medicinæ Practicæ*, and we despair of ever seeing this deficiency supplied. The mass of medical information which he possessed was immense, and we much fear it has perished with him. No notes of his lectures can, we imagine, ever be considered as giving a correct view of his opinions or practice. We are led to this conclusion by considering how remarkably *precise* he was in the choice of his expressions, how frequently he varied his lectures from the mere extent of the subject before him, and with what candour he modified his views according to the experience by which he was continually profiting.

As a literary man, Dr. Gregory long enjoyed a high reputation. He was early devoted to the study of metaphysics, and in the refutation of the doctrine of necessity he displayed uncommon ingenuity. His *Literary and Philosophical Essays*, in two vols., were published in 1792. As a philologist, he is known by a very profound essay on "*The Theory of the Moods of Verbs*," published in the second vol. of the *Transac-*

tions of the Royal Society of Edinburgh. Though not a professed mathematician, his mind was deeply imbued with the spirit of mathematical science, inherited from his celebrated ancestor; and this can be traced in all his writings, conspicuous alike for closeness of reasoning, clearness of arrangement, and the utmost precision of language.

His controversial writings are numerous, and display an exuberance of talent, a lively wit, and an extent of general information, which is astonishing, when we consider with what assiduity he cultivated, from a very early period of life, his professional pursuits. It has been said of him, that the nice and chivalrous sense of honour, by which he was distinguished through life, was perhaps too high toned for the tranquil exercise of his profession, as leading him occasionally into differences with his professional brethren, which many of his friends lamented, while they admired and venerated the high notions of personal and professional honour in which they originated.

In 1781 he married Miss Ross, daughter of James Ross, Esq., of Stranraer. By this lady, who did not long survive her marriage, he had not any children. In 1796 he married Miss M'Leod, daughter of Donald M'Leod, Esq., of Glanies in Rosshire. By her he has had eleven children, of whom seven are living; five sons, and two daughters. The eldest son is practising at the Scotch bar; and the second son, who bears his father's name, is now qualifying himself to follow that profession of which his father was so bright an ornament.

To great merit, as a teacher of medicine, and a high reputation as a man of science and literature, Dr. Gregory added a distinguished character as a *practical* Physician. From the time he was first appointed to a chair in the University, he took an active share in the Clinical practice of the Infirmary; and the lectures by which he illustrated it are spoken of, by those who heard them, in terms of unbounded admiration. About the period of his second marriage he began to be actively engaged in private practice. This increased so much upon him, that in less than ten years afterwards he was obliged to give up his Clinical lectures, to the great regret of the students. For more than twenty years past his advice has been anxiously sought from every part of Scotland, and his visits frequently extended far into the borders of England. To the poorer classes his professional advice was at all times gratuitously open. Such, indeed, was the disinterestedness of his conduct, that his income was never nearly so great as the celebrity of his name might have given reason to expect, and his generous heart was always open to afford that relief which wealth can bestow.

The leisure time which remained to him from the fatigues of practice was divided between the conversation of his friends, and those lighter amusements in which his powerful mind was fond to indulge. His society was sought after by men of the first eminence and rank in the country. The brilliancy of his wit, and the epigrammatic force of his conversation, will long be remembered by those who had the good fortune to enjoy his acquaintance. To a numerous circle of relations and intimate friends he was endeared by the stronger tie of a kindness of heart; the memory of which must be indelible.

In gardening, Dr. Gregory early found a great source of amusement, and he continued to indulge it to within a few days of his decease. At one period of his life he was a zealous archer; at another he entered with spirit upon the duties of a soldier, and never ceased to look back with pleasure upon the time he carried a musket as a private grenadier. Possessing a fine relish for ancient poetry, he occasionally attempted to infuse its spirit into our own language. He was most happy in his *Inscriptions*, many of which are worthy of the proudest days of Roman literature.

In spring, 1818, he experienced a severe misfortune in the breaking of his arm, by the accidental oversetting of the carriage in which he was travelling. The injury which he received was very severe, and his health soon after began sensibly to decline.

In April, 1820, he visited London, after an absence of twenty-eight years, as one of a deputation from the University of Edinburgh to congratulate his Majesty on his accession to the throne. On that occasion he was honoured by a private audience of his Majesty, of whose gracious condescension he cherished the most grateful remembrance. During the last year he suffered severely from attacks of difficulty of breathing, which ultimately ended in hydrothorax, which put a period to his valuable life, soon after having completed his sixty-eighth year. His health did not permit him to give any lectures, during the last winter, after Christmas.

The course was completed by his nephew, Dr. W. P. Alison, in a manner which, we hear, has gained the approbation of a very numerous class.

His remains were interred in the family vault in the Canon-gate churchyard, with great solemnity, on Saturday, April 7; the funeral being attended by the magistrates, professors, and other public bodies, the students of his class, and many private friends. In the Canongate, where Dr. Gregory at one time resided, a very strong testimony of respect was paid to his memory, by shutting up the shops during the time the procession passed. An universal feeling of regret, indeed, has

been expressed for the loss of one whose life was at once so honourable and so useful. Uniting, in a degree seldom equalled, the studies and acquirements of a man of science with the taste and honourable feelings of a gentleman, he shed a lustre upon the medical profession, whose influence will, we trust, be as lasting as it has been extensive and important. We know of no one to whose life and conduct may more truly be applied the classical words he himself inscribed on the tomb of one of his earliest and dearest friends:—"Vir priscæ virtutis, per omnes vitæ gradus et in omni vitæ officio probatissimæ."

The loss of such a man will be felt, as occasioning a blank, almost irreparable, not only in the academic celebrity of Edinburgh, but even in the national distinction of the country.

*The following was intended for insertion in the last Number.*

TO THE EDITORS OF THE LONDON MEDICAL REPOSITORY.

GENTLEMEN,—Having treated of senna in your two last Numbers, I proceed to offer some notices of bark; and in the prosecution of this purpose am led further to disclose the conduct which I have experienced on the part of Dr. Paris.

In the month of March last I presented some specimens of medicine to the Royal College of Physicians, accompanied by a note, of which the following is a copy:—

*To the PRESIDENT and FELLOWS of the ROYAL COLLEGE OF PHYSICIANS.*

HONOURABLE SIRS,—I have taken the liberty of placing before you three specimens of medicine, which I humbly conceive deserving of professional attention.

Begging respectfully to apologize for thus intruding on your time,

I remain, honourable Sirs,

Your obedient and very humble servant,

Fore Street, March 27, 1820.

RICHARD BATTLE.

*Memorandum annexed to the above.*

Extract of the lancifolia bark. — This extract is procured by boiling the entire bark, not even bruising it, in water, and condensing the matter taken up by the water, without, in the least, changing the appearance as to colour, as to taste, or medicinal properties; and which may be proved by diffusing the extract a second time in water, and the solution will be found unchanged in any manner.

The other specimens of medicine which accompanied this note, were dried colchicum and extract of poppy.

To this note I received the following answer:—

*College of Physicians, March 27, 1820.*

DEAR SIR,—I am desired by the Royal College of Physicians in London, to return their thanks to you for your kind presents, which are to be deposited in the materia medica collection.

I am, dear Sir,

Your humble servant,

To Mr. BATTLE, Fore Street.

CLEM. HUE, Registrar.

About the middle of June following, Dr. Paris, in his Lecture on the Preparations of Medicine, at the Royal College of Physicians, and before the

President, Fellows, and a pretty numerous auditory, read that part of my letter relating to extract of bark, and thus commented on it, as related by a person present at the lecture: "If the extract of bark, presented to the College by Mr. Battley, of Fore Street, possess the qualities which Mr. B. in a letter stated it to possess, (and he here read the letter,) it certainly deserved the attention of the College; but from experiments which I have myself made, and from similar experiments, made in the laboratory of the Royal Institution, the result is, that two-thirds consist of a substance neither soluble in water, nor even in spirits of wine; and this objection, independent of any other, is sufficient to prove the incorrectness of his statement."

The report which I received of this harsh, and, as I maintain, unjust stricture of Dr. Paris, induced me to address the following letter:—

*To the Honourable the PRESIDENT of the COLLEGE OF  
PHYSICIANS.*

SIR,—On the 27th of March I had the honour to present to the Royal College a specimen of the extract of bark, together with other pharmaceutical preparations.

I regret to learn, that at the public lecture on *materia medica*, delivered on Tuesday last, at the College, this specimen of bark was pronounced by Dr. Paris, from the professor's chair, to be a preparation, two-thirds of which was neither soluble in water, nor yet in spirits of wine; and that, independent of other objections, it followed that the representation with which I accompanied these specimens, when presented to the College, could not be correct.

I am sure that the Royal College of Physicians are incapable, as a body, of ill-treating an individual in return for considerable expense and great labour in the endeavour to excel in the preparation of medicines; and I trust that it is only necessary for me to establish the truth of this case, in order to be effectually relieved, in point of character, from the odium which has been publicly cast upon me.

There is not any just foundation for the representation that the extract is thus objectionable, as I am ready to prove to the clear and decided conviction of such members of the Royal College, as may be pleased to permit me to bring the remainder of the just-mentioned specimen, deposited at the college, to the test of experiment in their presence, and I confidently hope that this indulgence will be allowed to me before the hour of lecture on Friday.

You will not, *then*, sir, I am persuaded, allow the class of Students again to separate under the erroneous impression which the declaration of Tuesday, from the professor's chair, cannot fail to have given.

In the meantime, I respectfully submit to you, that, if my information be correct, the chair of the Royal College has been sullied by misrepresentation, in a manner directly opposite to the purity of your own individual character, and to the character of the learned and respectable body over which you preside.

I have the honour to be,

With great respect, Sir,

Your faithful and obedient servant,

RICHARD BATTLEY.

*Fore Street, June 22, 1820.*

I attended accordingly at the College, with the extract and apparatus for dissolving it, when Dr. Latham requested that I would not then press the subject, and that he would attend to witness the process at another time, either at the laboratory of St. Thomas's Hospital, or at some more convenient place.

On the 24th of June I received the following note from Dr. Latham:—

"DR. LATHAM presents his compliments to Mr. Battley, and informs him that he had some conversation yesterday with Dr. Paris, who proposed that the experiments should be made at the Royal Institution, before Dr. Hue,

Dr. Paris, Mr. Faraday, and Dr. Latham. Dr. L. therefore wishes Mr. Battley to fix any time most convenient to himself, after Monday next, (with the exception of Thursday,) in order that a meeting may be effected for the above purpose, and an end put to any unpleasant difference."

*Harley Street, June 24, 1820.*

To this note I immediately returned the following answer :—

*June 24, 1820.*

" MR. BATTLEY begs to return his compliments to Dr. Latham, and regrets his inability to name an earlier day than Wednesday to dissolve the extract of bark.

" Should two o'clock on that day meet the convenience of the gentlemen, Mr. Battley will, with much pleasure, attend at the Royal Institution for that purpose. Mr. Battley respectfully requests that Dr. Farre, and another friend, may be allowed to be present."

On the day of the intended meeting I received the following letter from Dr. Latham :—

*Harley Street, June 27, 1820.*

SIR,—I have but this moment received a letter from Dr. Paris, stating, that he had been able to see Mr. Faraday at the Institution, but late in the day, who informs him, that Sir Humphrey Davy and Mr. Brande are engaged in some experiments at present in the Institution, which will render the meeting to-morrow inconvenient.

Dr. Paris proposes to state to me, in writing, what he said respecting your extract of bark ; and then he wishes that I shall also receive from you, in writing, the particular points to which you object. His statement I shall probably receive in a few days, and I will then lose no time in forwarding it to you.

I have the honour to remain, Sir,

Your very obedient servant,

J. LATHAM.

To Dr. LATHAM.

*Fore Street, June 28, 1820.*

SIR,—I beg leave to acknowledge the receipt of your letter of yesterday, and to assure you that I was perfectly ready to have gone into the solution of the extract of bark.

Any communication you may be pleased to favour me with, shall have my most immediate attention.

I have the honour to remain, Sir,

Your obedient and very obliged servant,

R. BATTLEY.

Having remained without any further communication, I called at Dr. Latham's house once or twice in the month of July, and on the 26th of that month I received the following letter :—

*Harley Street, July 26, 1820.*

SIR,—I have just received from Dr. Paris the subjoined letter from Mr. Faraday to him ; and it appears to me, that the best way of settling the matter would be for you to accept the invitation, and go to the Institution. If you can convince Mr. Faraday by your experiments, the matter in dispute will be at once settled.

I remain, Sir, Yours very truly,

J. LATHAM.

From Mr. FARADAY to Dr. PARIS.

(COPY.)

*Royal Institution, July 25, 1820.*

DEAR SIR,—I have again tried to dissolve some of Mr. Battley's extract in water, and, as before, find it partially soluble in that fluid. I cannot help

thinking, either that Mr. Battley has not tried the experiment with all his specimens of extract, or that he attaches a meaning to the term solubility different to the general and accepted one. The appearances are so plain and distinct, that different views cannot be taken of them; and I should think Mr. Battley could as easily convince himself at home as here. Nevertheless, I am always ready to show him the experiment, or to see one made by him, either here or at his own house. It is an affair of not more than five minutes.

I am, dear Sir,  
Yours very truly,  
(Signed) M. FARADAY.

To this letter I returned the following answer:—

*To Dr. LATHAM, PRESIDENT of the COLLEGE OF PHYSICIANS.*

SIR,—I have the honour to acknowledge the receipt of your letter of the 26th instant, and in reply respectfully submit to you, that I am most ready and willing to meet Dr. Paris at the Royal Institution, in the presence of yourself and the gentlemen who were named in the letter which I had the pleasure to address to you on the 24th of June, at any time that may be appointed for that purpose.

The object of the meeting I apprehend to be sufficiently defined by the enclosures.

No. 1. Copy of my letter, of the 27th of March last, to the Royal College of Physicians, and memorandum accompanying specimen of bark.

No. 2. Memorandum, or minute of the observations or objections of Dr. Paris as reported to me.

Of course, I purpose to demonstrate the truth of my statement, and to show that Dr. Paris's observations or objections are not justified by the fact.

I remain, Sir,  
Your faithful and obliged humble servant,  
RICHARD BATTLEY.

The following is the minute referred to.—No. 2.

#### ON BARK.

During Dr. Paris's observations on this article, he introduced a sample of ext. bark, which he stated was submitted to the College by Mr. Battley, of Fore Street; and if it possessed the qualities Mr. B. observed it did, in a letter, (which he here read,) it certainly deserved the attention of the College; but from experiments which he has made himself, and also from similar ones made in the laboratory of the Royal Institution, the result was, that two-thirds was a substance neither soluble in water, or even in spirits of wine; this, independent of any other objection, was sufficient to prove that his statement was not correct.

June 20, 1820.

*From Dr. LATHAM to Mr. BATTLEY.*

*Harley Street, July 28, 1820.*

SIR,—I feel, from what has already passed, that the best chance of bringing the business to a conclusion, would be for you to embrace Mr. Faraday's proposition, to call upon him for that purpose at the Royal Institution. - Dr. Paris, who brought me Mr. Faraday's letter, (with an enclosure from himself, in case I had not been at home,) is anxious that you should do so, saying, that a third person, uninterested like Mr. F., would be more easily convinced than either one or both of the two angry men; and that the truth would sooner appear when the experiment was so conducted. And, indeed, I think so also. I cannot well detail to you any further reasons why I am sure such would be the most ready way of arriving at a

just conclusion; but I find that the difference of opinion mainly rests (as I should suppose) upon some mistake in the terms, solution and diffusion; the solution of a substance in any fluid being a totally different result to its diffusibility—one being a chemical—the other a mechanical operation. I can assure you that, although I may have failed in my endeavours, I have taken more pains than you are aware of, to bring the matter to an issue, which my first letter to you intimated to be my wish; but it has been difficult to arrive even at the point which is now proposed in Mr. Faraday's letter. Call therefore upon him, and if you convince him, the whole will very easily be settled, I trust, to your satisfaction. When you have made the experiment before Mr. Faraday, I shall be happy to understand the result; and will then also devise, as far as I am able, the best means of a full and amicable adjustment.

I have the honour to be, Sir,

Your very obedient servant,

J. LATHAM.

*From Mr. BATTLE to Dr. LATHAM.*

SIR,—I have the honour to acknowledge the receipt of your letter of yesterday. I am perfectly convinced of the impartial manner in which, as President of the Royal College of Physicians, you will decide on any medical point submitted to your judgment; nay, more, I am assured that you would even extend your protection to any one who felt himself aggrieved by the manner in which his services had been commented on in the presence of that learned body; and I beg to offer you my best thanks for the pains which you have taken to bring the matter between Dr. Paris and myself to issue.

Dr. Paris having, in his official situation, at a public lecture, before the President and Fellows of the College, condemned a preparation of mine, which I have, by repeated experiment, ascertained to be superior to the extract of bark, ordered in the pharmacopœia of the College, and which was my only ground for presenting it to that body, I went to the College at their next public meeting, prepared to refute the assertions of Dr. Paris, by actual experiment. At your request, however, Sir, I retired, under the pledge of having justice done me, in the presence of yourself and others, at another public Institution.

I beg to refer to your letter of the 24th of June, stating that Dr. Paris had proposed that the experiment should be made at the Royal Institution, by me, in the presence of Dr. Hue, Dr. Paris, and Mr. Faraday, to whom I respectfully requested that Dr. Farre and another friend might be added. This meeting was postponed against my inclination, when I was prepared to attend it.

You cannot, therefore, Sir, be surprised, if I now decline the proposal which is conveyed by your letter of yesterday, that a *public* objection urged against me, should be referred to the judgment of an *individual*, (Mr. Faraday) of whom I have not the slightest knowledge, and who, it appears, by Dr. Paris's own account, has already given his opinion upon the question. I beg, therefore, most respectfully to state, that it is my intention to have the extract, according to the formula of the College, and also according to my own formula, prepared at St. Thomas's Hospital, under the able direction of Mr. Whitfield, the Apothecary to that Institution; and I will appoint the earliest time that shall be agreeable to yourself and the other gentlemen named by you in the letter before referred to, to prove the superiority of my preparation, as contrasted with that of the College, or of any other extract of bark, whether in regard to its solubility or diffusibility in water. To give the publicity which this, as a public matter, appears to me to require, I purpose requesting, by circular letters, the attendance of

the Profession generally at this meeting; and that the question may be understood, I intend to embody copies of the enclosures to you of yesterday, Nos. 1 and 2.

At the same time that I transmitted to the College the extract of bark which they did me the honour to admit into their museum, and on which Dr. Paris has since passed judgment, I gave to Dr. Hue a portion of the same extract, and retained and placed another portion under seal, which latter shall be the subject of experiment at the same time, and also, if permitted, the sample delivered to Dr. Hue.

I regret that I should in any manner vary, in point of judgment, from your kind and friendly recommendation, and, assuring you of my great sense of obligation for the reception with which you have honoured me,

I remain, Sir,

Your faithful and obedient servant,

114, Fore Street, July 29, 1820.

RICHARD BATTLE.

*From Dr. LATHAM to Mr. BATTLE.*

*Harley Street, August 1, 1820.*

SIR, — The matter in dispute between you and Dr. Paris stands thus: Dr. Paris publicly contradicts a statement which you had made, as to the solubility of your extract of bark—you appear ready to show, by experiment, on the same public occasion, that you was right, and Dr. Paris wrong. This public exhibition before the class to which Dr. Paris was lecturing, I did not think it decorous to allow, but expressed my willingness, and, indeed, my wish, that it should be made on another occasion. This I mentioned immediately to Dr. Paris, who assented; and a day in the next week was fixed for the experiment, to be shown before Dr. Paris, Dr. Hue, Mr. Faraday, and myself, and before some others whom you intended to bring with you. A letter from Dr. Paris states that, owing to some experiments going on at the Institution, Mr. Faraday could not conveniently arrange matters so as to receive us. I then pressed for another time to be fixed, and Dr. Paris answered that it would be useless to meet, unless certain points were previously stated; that he would write down what he had said; and that you should reply to those points; and afterwards that the experiments should be made at the Royal Institution. For Dr. Paris's statement I waited several days, — I then called, and saw him at Camberwell, when I reminded him of his promise, and at last I received his statement, on the day I transmitted to you the letter of Mr. Faraday. I did *not* send you Dr. Paris's statement, because a third person, Mr. Faraday, had given his opinion that you was incorrect, which again altered the circumstances of the dispute as between yourself and Dr. Paris, and gave you an opportunity, at the same time, of setting yourself right with Mr. Faraday; this, to my great surprise, you decline. I do not vindicate the conduct of Dr. Paris in delaying, and afterwards declining the meeting proposed: neither can I think that you are acting properly in declining the invitation of Mr. Faraday. However, that is your own concern. As to myself, I cannot now continue a party to the dispute, inasmuch as my advice has been declined on both sides; but I confess I should like to see your experiment; and if Dr. Hue will allow you to conduct it in his laboratory, at St. Bartholomew's Hospital, I should have great satisfaction in attending there. To attend any where else would not, after what has occurred, be agreeable to my feelings.

I have the honour to be, Sir,

Yours very truly,

August 1, 1820.

J. LATHAM.

*From Mr. BATTLEY to Dr. LATHAM.*

*Fore Street, August 1, 1820.*

SIR,—In acknowledging the honour of your letter of this day, allow me to repeat the expression of my regret, that I cannot, consistently with the dictates of my own judgment, submit the question of the extract of bark to the arbitrement of Mr. Faraday. I have not any reason to presume that Mr. Faraday is competent to decide upon the medical properties of drugs, however qualified he may be to pronounce upon the mere question of solubility or insolubility; and, further, he has already given his opinion upon the subject.

I intended to present to the Royal Colleges a superior specimen of extract of bark, superior in those qualities which render bark valuable in the practice of medicine; and I am prepared to show, that I have not advanced any improper pretension in this respect.

I therefore feel happy in the permission to illustrate the fact in your presence; and I shall take the opportunity of requesting the favour of Dr. Hue to name a time for this purpose, and which I shall have the pleasure immediately to communicate to you.

I remain, Sir,

Your faithful and obedient servant,

RICHARD BATTLEY.

Upon subsequent communication with Dr. Hue, he obligingly assented to my request to be permitted to use his laboratory in any manner calculated to illustrate the subject in question — qualifying his permission, however, by the observation, that unless the purpose intended could be previously distinctly defined, he apprehended that the question might decline into a mere question of terms, and, consequently, that the meeting had better be postponed, or altogether avoided, unless such definition could be previously agreed upon. To this hour I have been without the advantage of the distinct definition, so fairly and soundly suggested by Dr. Hue, as a basis upon which to proceed: but I understand the objection of Dr. Paris to rest mainly upon the assumed or alleged insolubility of my preparation of bark; and from the discussion which took place, I learn that I was supposed by Dr. Paris not to understand the distinction between solubility and diffusibility.

It is unnecessary to enter upon the critical discrimination of the import of these terms.—I am prepared to show that the preparation of bark, a specimen of which I presented to the Royal College on the 27th of March last, is not merely diffusible, but that it is entirely soluble in water, excepting only such fibrous or woody matter as I may not have been able to prevent passing the strainer, in the earlier part of the process in making the extract, the quantity of which is trivial, not exceeding half a dozen grains in the ounce of extract, and very commonly not extending to more than one half that quantity.

The means which I use in procuring this extract, I shall describe in a paper which I purpose requesting the favour of you to insert in your next Number. I shall avail myself of the same opportunity to name the day upon which I shall hope to be honoured by the attendance of the Profession, either at the laboratory of Dr. Hue, at St. Bartholomew's Hospital, or at the laboratory at St. Thomas's Hospital, for the purpose of witnessing the process by which I obtain the soluble extract of bark.

I remain, Gentlemen,

Your obedient servant,

*London, March 14, 1821.*

RICHARD BATTLEY.

## A METEOROLOGICAL TABLE,

*From the 21st of MARCH to the 20th of APRIL, 1821.*

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer.		Therm.		Rain Gauge.	Winds.	Weather.	
	Max.	Min.	Max	Min.				
21	29	40	29	22	46	32	07 NbW..	1 S.. & Sh. of Rain. & Sno.
22	29	64	29	64	42	26	N..	1 Sun.. and Sh. of Snow.
23	29	48	29	23	46	30	W.SW.	1 Sun.. 3 Cloud.. 4 Starl..
24	28	94	28	91	51	38	03 SSW....	14 Rain. 23 Cloud..
25	29	12	29	10	52	32	WSW.	1 Sun..
26	29	17	28	84	49	35	65 SW.SE..	1 Snow.. 23 Sun.. 4 Rain...
27	28	88	28	81	42	31	SE..SW..	1 Cloud... 3 Sun.. 4 Starl....
28	28	77	28	76	42	34	23 E.ESE.	1 Mist... 2 Rain...
29	29	12	28	93	50	33	15 ESE.SW.WbN	1 Rain.. 3 Sun. 4 Starl...
30	29	06	28	85	46	36	10 SW..	1 Sun... 4 Rain..
31	29	10	29	02	51	31	02 SW...	1 Sun..
1	29	03	28	73	50	38	27 SW...	1 Sun... & Show. 4 Rain...
2	28	68	28	59	53	35	16 SW...	1 Sun.. & Show..
3	28	83	28	72	47	37	23 SW....	1 Show... & Sun..
4	29	11	28	97	53	35	W..	1 Sun..
5	29	59	29	50	48	30	NW..	1 Sun..
6	29	50	29	47	50	38	11 NW..WSW..	1 Sun.. 3 Show..
7	29	75	29	71	61	47	SW..	1 Sun..
8	29	70	29	58	58	47	SW..	13 Sun.. 24 Cloud..
9	29	53	29	43	59	47	SW..	13 Sun.. 24 Cloud..
10	29	33	29	20	63	45	04 S.E.	1 Sun. 2 Cloud.. 3 Show.
11	29	03	28	92	58	36	09 SW..	1 Sun.. 3 Show. 4 Moon.
12	28	78	28	72	51	38	22 SE..SW..	1 Sun. & Show... & Thun..
13	29	18	29	08	51	37	04 SW..WbN..	1 Sun.. & Show.
14	28	94	28	80	48	35	47 SE..SW...	1 Sun. 2 Rain....
15	29	06	29	02	50	36	07 W..	1 Sun... 4 Rain.
16	29	13	29	13	54	29	WSW..	13 Cloud... 2 Sun. 4 M...
17	29	20	29	19	54	31	04 W.NE.	1 Sun... 2 Show. & Sun.
18	29	32	29	26	54	40	WSW..	1 Sun.. & Show. 3 Sun...
19	29	15	29	06	54	40	20 SE..SbW..	14 Cloud... 2 Sun. 3 R...
20	29	44	29	36	60	42	SW.	12 Sun... 34 Cloud..

The quantity of rain during the month of March was 4 inches 19-100ths.

*Observations on Diseases at Richmond.*

The disorders under treatment were, Anasarca, Asthenia, Catarrhus, Cephalœa, Chlorosis, Cynanche tonsillaris, Diarrhœa, Dyspepsia, Febris catarrhalis, Febris simplex, Gastrodynia, Gonorrhœa, Icterus, Impetigo, Lateralis dolor, Mania, Ophthalmia, Otalgia, Paralysis, Pneumonia, and Podagra.

# THE METEOROLOGICAL JOURNAL,

*From the 19th of MARCH, to the 20th of APRIL, 1821,*

By Messrs. HARRIS and Co.

*Mathematical Instrument Makers, 50, High Holborn.*

D.	Moon.	Rain.	Therm.	Barom.	De Lac's Hygrom.	Winds.	Atmo. Variation.
20			39 50 38	29 30 29 30	53 53	W WNW	Fine — Clo.
21			40 50 34	29 26 29 50	55 55	W NW	Fine —
22		,09	38 47 32	29 66 30 00	56 56	NNW N	Fine Sho. Fine
23			34 45 33	30 06 30 00	54 54	N SSW	Fine —
24		,20	37 49 35	30 00 29 85	53 57	SW SW	Fine Sho. Rain
25		,13	39 49 36	29 73 29 60	60 59	SW W	Rain — Fine
26	D		38 51 36	29 51 29 45	56 55	SW S	Fine — Clo.
27			41 50 38	29 40 29 41	55 58	SW SW	Fine —
28		,16	40 53 40	29 27 29 15	60 60	SSE SE	Clo. Rain —
29		,29	41 53 38	29 23 29 37	60 58	S SW	Rain —
30			41 49 40	29 70 29 72	58 58	WSW SSW	Fine —
31		,27	42 48 36	29 43 29 57	58 57	S W	Rain Sho. Fine
1		,11	39 50 47	29 66 29 53	58 58	WNW SSE	Fine — Rain
2	D	,21	49 53 43	29 33 29 33	63 62	W W	Rain —
3			47 55 47	29 33 29 35	60 55	SW SW	Fine —
4			45 57 49	29 38 29 41	57 57	SW WNW	Fine —
5			45 53 43	29 78 29 90	55 56	N NNW	Fine —
6		,19	47 51 42	29 95 29 99	57 59	N N	Fine — Rain
7			45 55 49	30 06 30 17	63 62	N W	Clo. —
8			52 60 51	30 16 30 13	60 60	NW W	Fine —
9	C		55 61 52	30 05 29 93	58 58	WNW WNW	Fine — Clo.
10			56 60 48	29 82 29 74	57 60	W SW	Fine Clo. —
11		,24	53 59 42	29 67 29 54	55 57	SW WSW	Sho. Fine Rain
12		,10	46 53 44	29 45 29 40	55 57	WSW SW	Fine Sho. Clo.
13			47 52 41	29 37 29 71	56 56	W W	Fine —
14		,13	45 59 40	29 67 29 43	55 56	SSE S	Fine Rain Clo.
15		,18	43 50 38	29 55 29 54	55 56	SW S	Rain Sho. Fine
16			42 52 41	29 51 29 65	56 60	S S	Fine —
17	☉		43 55 39	29 77 30 00	57 60	SSE S	Fine —
18			42 54 44	29 82 29 60	57 56	SE ESE	Fine —
19		,04	50 59 43	29 51 29 49	58 60	E E	Clo. —

The quantity of rain fallen in the month of March is 2 inches and 64-100ths.

## A REGISTER OF DISEASES

Between MARCH 20th and APRIL 19th, 1821.

DISEASES.	Total.	Male.	DISEASES.	Total.	Male.
Abortio .....	3		Febris <i>Puerpera</i> .....	5	1
Abscessio .....	8	2	— <i>Remit. Infant.</i> ..	6	
Amenorrhœa .....	4		Fistula .....	2	
Amentia .....	1		Furunculus .....	2	
Anasarca .....	6	1	Gastritis .....	1	
Aneurisma .....	1		Gastrodynia .....	7	
Anorexia .....	1		Gonorrhœa <i>pura</i> .....	3	
Aphthæ <i>anginosa</i> .....	2		Hæmaturia .....	1	
Apoplexia .....	6	3	Hæmoptœ .....	6	
Ascites .....	7	3	Hæmorrhoids .....	3	
Asthenia .....	4		Hemiplegia .....	2	
Asthma .....	22	2	Hepatalgia .....	3	
Atrophia .....	3		Hepatitis .....	12	
Bronchitis <i>acuta</i> .....	10		Hernia .....	2	
— <i>chronica</i> .....	6		Hydrocele .....	1	
Cancer .....	3		Hydrocephalus .....	4	3
Carbunculus .....	3		Hydrothorax .....	6	5
Cardialgia .....	1		Hysteria .....	6	1
Carditis .....	4	1	Hysteritis .....	2	1
Catarrhus .....	36		Icterus .....	2	1
Cephalalgia .....	21		Ischias .....	1	
Cephalæa .....	3		Ischuria .....	5	
Cholera .....	3		Lateris <i>dolor</i> .....	4	
Colica .....	9		Lepra .....	1	
— <i>Pictorum</i> .....	1		Leucorrhœa .....	7	
Convulsio .....	2		Mania .....	7	
Cystitis .....	3		Melancholia .....	1	
Cynanche <i>Tonsillaris</i> ..	17		Menorrhagia .....	9	
— <i>Trachealis</i> ..	1		Miliaria .....	1	
— <i>Parotidea</i> .....	1		Morbi Infantiles* .....	27	1
Diabetes .....	1		— <i>Bilioi</i> * .....	17	
Diarrhœa .....	14		Obstipatio .....	7	
Dolores .....	2		Odontalgia .....	12	
Dysecoea .....	1		Ophthalmia .....	17	1
Dysenteria .....	4	1	Otalgia .....	3	
Dyspepsia .....	22		Palpitatio .....	4	
Dyspnoea .....	2		Paralysis .....	4	
Dystocia .....	2		Pericarditis .....	1	
Dysuria .....	1		Peripneumonia .....	7	1
Empyema .....	1		Peritonitis .....	9	
Entrodynia .....	2		Pernio .....	4	
Epilepsia .....	2	1	Pertussis .....	8	1
Epistaxis .....	1		Phlegmasia <i>dolens</i> .....	1	
Erysipelas .....	10	4	Phrenitis .....	1	
Erythema <i>nodosum</i> .....	1		Phthisis <i>Pulmonalis</i> .....	10	4
Febris <i>Intermittent</i> .....	17		Pleuritis .....	12	
— <i>catarrhalis</i> .....	10		Pleurodyne .....	4	
— <i>Typhus mitior</i> .....	1		Pneumonia .....	24	5
— <i>Typhus grav.</i> .....	1		Podagra .....	5	
— <i>Synochus</i> .....	15		Porrigo <i>larvalis</i> .....	1	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Porri <sup>o</sup> decalvans .....	1		Scrofula .....	7	1
Prolapsus .....	2	1	Spasmi .....	2	
Prurigo mitis .....	1		Syphilis .....	19	1
— senilis .....	1	1	Tabes Mesenterica ....	1	
Pyrosis .....	1		Tetanus .....	1	
Rheuma acutus.....	18		Vaccinia .....	14	
— chronicus .....	27		Variola .....	7	1
Rubeola .....	1		Vermes .....	13	
Rupia .....	1		Vertigo .....	13	
Scabies .....	33		Total of Cases .....	774	
Scarlatina simplex.....	3		Total of Deaths .....		47
— anginosa .....	7				

\* *Morbi Infantiles* is meant to comprize those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Bilioi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

Observations on Prevailing Diseases, &c.

THE last few days have been days of extraordinary temperature for the time of the year, the thermometer having been as high as 72 to day, and we may expect a diminution, as we have indeed already observed, of those complaints of the catarrhal, pulmonary, and rheumatic kind, which still, more than any others, appear to be influenced by the vicissitudes of the weather. Infantile affections still continue prevalent, and they appear sometimes in so undecided a form, and exhibit such mixed indications of treatment, that it does not always seem very obvious at which point the Practitioner should commence his remedial operations. The combination before alluded to has proved, during the last three or four weeks, very common between the bronchial and encephalic disease, and that often with every appearance of orderly function in the alimentary and intestinal canal, as well as in every other organ connected with the digestive and assimilating processes.

We have received the following from one of our reporters, Mr. Burgess, to whom we beg to express our obligations.

*Another case of Rheumatism in which the Colchicum Seed Wine has been given, and which is one of the cases here reported.*

DAVID COTTER, aged forty-one, a labourer, lives at No. 3, Starr Court, Cross Lane, says he caught cold from getting wet, since which time has had most severe pains in his neck, shoulders, and elbows, for a month, during which time he has scarcely known the comfort of a good night's rest, and, consequently, has not been able to follow his work. This man applied to the reporter on 20th of March, who gave him 3j of the vin. *sem.* colchic. three times a day for several days, and sometimes twice a day only. He called on reporter this day, 20th of April, saying, he is well enough to sell fruit in the street, which he is obliged to do for want of his usual employment, but that he is not quite free from pain. It may be necessary to state, that in this case nothing but the wine and soothing liniments were employed. Several other cases of rheumatism are under the influence of the colchicum wine, the result of which will be reported next month.

Another correspondent likewise writes word, that he is about to transmit some cases proving the efficacy of the colchicum seeds.

## MONTHLY CATALOGUE OF BOOKS.

A View of the Structure, Functions, and Disorders of the Stomach and Alimentary Organs of the Human Body, &c. &c. By Thomas Hare, F.L.S. 8vo. Price 12s.

A Grammar of Botany ; illustrative of Artificial, as well as Natural Classification. With an Explanation of Jussieu's System. By Sir James Edward Smith, M.D., F.R.S., &c. Coloured and plain. 8vo. ....

Practical Observations on Disorders of the Liver and other Organs of Digestion which produce the several Forms and Varieties of the Bilious Complaints. By Joseph Ayre. 8vo. Price 9s.

A Dissertation on Infanticide, in its relation to Physiology and Jurisprudence. By W. Hutchinson, M.D. 8vo. Price 5s. 6d.

## NOTICES TO CORRESPONDENTS.

*Communications have been received this month from Mr. Heineken, Dr. Nicholl, Mr. Richard Williams, Mr. Blackett, Mr. Bartlett, Mr. Wansbrough, and Dr. Robertson.*

*To Dr. Nicholl we beg to express our obligations for the trouble he has taken. He will find his Essay referred to in our next Number.*

*A Paper from Dr. Williams will appear in the next Number, containing further accounts of the efficacy of the colchicum seeds, and directions respecting the gathering of them.*

Errata in last Number, page 290, line 8, *for* reputed, *read* repeated. Page 292, line 35, *for* indelicate, *read* a delicate.

\*.\* *Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 32, Fleet Street.*

THE  
LONDON MEDICAL  
REPOSITORY.

No. 90.

JUNE 1, 1821.

VOL. XV.

PART. I.

ORIGINAL COMMUNICATIONS.

I.

*Further Remarks upon the Seeds of the Colchicum Autumnale, containing Directions for gathering and preserving them; also, Observations on their infinite Superiority over the Root of the Colchicum Plant—with additional Cases to exemplify their Efficacy in subduing Chronic Rheumatism, and other painful Diseases.* By WILLIAM, HENRY WILLIAMS, M.D., F.L.S., of Ipswich, and Fellow of the Royal College of Physicians, London.

As the period approaches which I recommended as the most eligible for obtaining the seeds of the colchicum autumnale, I think it requisite to observe, that the collector should be directed to depend upon the *seeds having assumed a dark brown colour*, which denotes their ripeness, rather than upon the *exact period* of the year for obtaining them in perfection — which the *variableness* of the seasons in our climate renders it almost impossible to ascertain with precision.

A more minute investigation, subsequently to my first publication on this subject, has enabled me to ascertain that in a pound of the seeds gathered the latter part of June or early in July last, eleven ounces in weight were lost in drying; whereas the same quantity, collected at the end of July or the beginning of August, lost two ounces and a half only. In warmer and dry seasons, they may be found perfectly ripe a month earlier.

Now, as I have reason to suppose one half of the seeds gathered during the last year, were collected in an unripe state, yet having produced the beneficial effects already

manifest, I am justified in believing that the further use of them will ultimately demonstrate to the public, the infinite superiority of the colchicum seeds beyond any other remedy hitherto employed, in cases of chronic rheumatism and many other painful diseases.

Much as the powers of the *root* of this plant have been extolled by different writers, I cannot omit this opportunity of declaring my decided conviction, that, however successfully different preparations of it may have been occasionally administered, its uncertain effects, the violence sometimes accompanying its operation, the little reliance to be placed upon the experiments hitherto made to ascertain the exact period of the perfection of the bulb, and the deterioration it frequently undergoes in keeping, are objections so weighty, that its value in the *Materia Medica* is insignificant, compared with the immense advantages attending the exhibition of the seeds.

I must here enter a protest against bruising the seeds — a practice which some persons have been induced to adopt, with the view either to augment their powers, or to obviate their scarcity; but as their valuable properties reside chiefly in the husk, or cortical part, the benefit of preserving them entire is obvious. I also strongly condemn the use of any other wine than sherry, in preparing the *vinum seminum colchici*; all British made wines being decidedly objectionable.

The colchicum plant, which luxuriates so freely in the open fields, is far less prolific when planted in a dry soil, and in confined gardens, where the seed-vessel seldom rises from the earth, and never arrives at maturity. It seems that nature having designed the seeds for the amelioration of those evils they are so well adapted to overcome, requires not their aid in the propagation of the plant, but furnishes, by means of the root, a profuse supply of it, where the soil and situation are congenial to its growth.

A trifling illustration will serve to prove how little satisfaction the experiments hitherto published upon the subject of gathering and drying the bulbs, can afford the medical Practitioner.

Mr. Thomson and Mr. Battley, in their late communications to the Editors of the *RESPOSITORY*, have displayed great industry in their ingenious experiments to ascertain the precise time for collecting the *root* of the meadow saffron, and to point out the best method of preparing it, in order to divest it of its uncertain and deleterious properties. The most minute investigation has led them to very different conclusions, as to the portion of heat required for drying the

bulbs—one of them preferring the atmospheric air, fifty degrees; the other a temperature of one hundred and seventy degrees. Both are of opinion, that the proper time for gathering the root, is about the *end of July*; whereas Mr. Haden, in his *Observations on the Colchicum Autumnale*, relates that the powder he found the most powerful, was prepared from the root gathered in the *middle of September*, when the plants were *in flower*, and dried in a temperature of one hundred and thirty degrees\*.

Thus three several degrees of temperature, namely, fifty, one hundred and thirty, and one hundred and seventy degrees, are directed to be employed in a process, which, we are assured, requires the strictest accuracy in order to ensure a salutary effect!—contrasting this uncertain and hazardous process with the simple management of the seeds, which require only to be gathered when the brown colour denotes their ripeness—dried in the shade, and preserved in a dry place, would keep good perhaps for many years—mild and efficacious in their operation—they afford a desideratum worthy the attention of the public at large, and the medical world in particular.

Were a variety of cases requisite to illustrate the valuable properties of the colchicum seeds, I have still ample means of furnishing them; but to those already adduced in my former papers upon the subject, I shall only add the following:—

*Case 1.*—Abraham B., aged thirty, of a good constitution, was attacked severely with rheumatism, at Michaelmas, 1820, which continued to harass him night and day, and to deprive him of the power, during the last three months, of following his employment as farming bailiff. His pains and weakness affected principally the upper and lower extremities and loins. His pulse was natural, though weak; tongue clean, and bowels regular. In this painful and reduced state, he applied to me on the 10th of March, when I prescribed for him from thirty to sixty drops of the spiritus sem. colchici ammoniatus, at eleven o'clock in the morning, and a teaspoonful every night at bed-time, in a wine-glass of cold water, increasing the evening dose, if necessary, to a teaspoonful and a half.

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\* Amidst such conflicting opinions, what confidence can be placed in the colchicum root, which, independently of the difficulty of preparing it for use, has such capricious and frequently lamentable effects? The little reliance Mr. Haden himself seems to place upon the efficacy of the colchicum root, may be inferred from his almost invariably calling in the aid of powerful auxiliaries to assist its operation. — See “Haden on Colchicum,” page 23 to 28—74, and 75.

On the 24th of the same month, he called upon me to request my assistance for a fellow-sufferer in the same parish, assuring me he had felt almost immediate relief from the medicine I prescribed for him, and that he was perfectly restored to health.

*Case 2.* — Mrs. Mary R., aged fifty-six, of a delicate constitution, has been subject to rheumatism twenty years, during which time she was seldom free from pain and lameness, particularly in the lower extremities. The first attack of her disease confined her to the bed eight weeks, and so reduced her, that she compared her weakness to that of “a child a few months old.” After an interval of nine years, she was again confined to her bed for six months, by the same distressing complaint. In January last, she applied to me in a very reduced, painful, and crippled state. I advised her to take thirty drops of the *vinum sem. colchici* two hours after breakfast, and a teaspoonful at bed-time, in water, or weak ginger tea, which in a few days removed all her pains. By augmenting her doses one half, she found herself, in five weeks, free from stiffness in the limbs, and enabled to walk without difficulty. Meeting her a fortnight since, I had, upon inquiry, the satisfaction of hearing that she was “perfectly well.”

In this case, the necessity of strict attention to diet was particularly obvious; for a fortnight previously to her consulting me, Mrs. R. had taken the *vinum sem. colchici* to the amount of two ounces, with little or no benefit, which I attribute to her having freely eaten batter pudding and dumpling, with a bason of gruel at night. To such articles of diet, and all others of an indigestible and flatulent nature, there is the greatest objection, during the use of the various preparations of the *colchicum* seeds, inasmuch as such species of food invariably aggravates the disease, and prevents the salutary action of the remedy.

*Case 3.* — Mrs. H., aged fifty-four, of a nervous temperament, experienced a severe attack of lumbago, on her recovery from scarlet fever, in November, 1820, which left her in a very debilitated state. Motion, in the slightest degree, rendered the pain in her back extremely acute. She was induced to take, of her own accord, two ounces of the *vinum sem. colchici* in the space of ten days, but without any diminution of pain. She then consulted me upon her case, and finding she had taken the medicine without any attention to diet, I enjoined the requisite restrictions, and particularly recommended the discontinuance of a practice she had imbibed, of placing her back opposite the fire, for the purpose of rubbing the loins with hartshorn and oil: — than which, nothing can be more detrimental — for in my opinion, the habit of sitting

with the back to the fire, even in healthy subjects, is often the cause of lumbago, and in this disease prevents the salutary effects which medicine might otherwise produce. A strict attention to my plan of exhibiting the *vinum sem. colchici*, removed all her pains in the course of a week; and in three weeks, without the aid of any other prescription, she was perfectly well.

*Case 4.*— Sarah R., aged forty, of a slender habit, applied to me on the 30th of December, 1820, after various remedies for her relief had been tried in vain.

A sudden suppression of the catamenia, which occurred three years ago, produced, in a few months, oppression about the præcordia, palpitation of the heart, great flatulency, abdominal pains, restless nights, an enlarged, œdematous, and painful state of the lower extremities, with a prostration of strength, which rendered walking extremely distressing to her. To all these symptoms, which were in existence when I first saw her, may be added, a loss of appetite, an emaciated countenance, and a tendency to fainting on the slightest exertion; but her tongue was clean; urine not deficient in quantity; bowels regular; and the pulse, though weak, not exceeding 84 in a minute. By taking the *vinum sem. colchici* twice a day, in horehound tea, commencing with thirty drops in the morning, and a tea-spoonful at bed-time; gradually increasing the morning dose to a tea-spoonful, and the evening dose to two tea-spoonsful, almost all her painful feelings, and the swelling in her legs, were removed in one month, at which period a partial return of the catamenia took place. A perseverance in this plan, accompanied by a proper diet, and lessening occasionally each dose of her medicine, when the bowels were too active, have effected such an improvement in her general health, that during the last two months she has been able to walk to my house every alternate Saturday, and return home on foot without much fatigue—a distance of four miles.

At this time, I have another patient at the public dispensary afflicted somewhat in a similar manner, who has derived great relief from the same medicine; but her complaint is supposed to have originated in syphilis.

*Case 5.*— The following case has been just put into my hand by a medical friend and a neighbour of mine, in extensive practice, who tells me that he has given the *colchicum seed wine* in a variety of instances, and never without its affording relief:—

“ Miss R., a young lady at school, of a delicate habit, about fourteen years old, who had not menstruated, had been troubled at different times for twelve months, with pain in the

right hypogastrium, for which, when at home, she had been under medical care, and had made use of embrocations, plasters, and other means, with little relief.

"She came under my care in October, 1820; the bowels were not confined; there was no flatulent distention or swelling; there was some quickness of pulse, and a little fever; and pressure with the hand increased the uneasiness. Aperients, stimulants, embrocations, saline diaphoretics, and anodynes, were tried, but with little or no relief. Recourse was had to the *vinum sem. colchici*, in doses of twenty, thirty, or forty drops three times a day. In the course of a few days the complaint disappeared. In about three months it again came on; but by the use of the same remedy, it was speedily removed.

"Upon different occasions, I have known the same valuable remedy of extraordinary use in cases of pain, in young females, affecting different parts of the abdomen, when the periodical change was depending, and had not yet been established."

*Case 6.*—Philip K., a labourer, aged thirty, was afflicted four years with rheumatism, which first attacked him in the right knee, and, subsequently, in various parts of the body, but more especially in the hands, wrists, neck, and shoulders. He applied to me, in a very painful and crippled state, in July, 1820, having previously taken, among many other remedies, with little or no benefit, four bottles of a "*celebrated tincture for gout and rheumatism*," which may be supposed to have been genuine, because they were purchased of the proprietor himself. His tongue was clean; pulse natural; appetite good; but his bowels were generally confined. With a diet precluding indigestible and fermentable food, I directed him, twice a day, in water or ginger tea, a teaspoonful of the *vinum sem. colchici*, which, in a fortnight, when he again called upon me, had removed nearly all his painful feelings, and much of the rigidity in his neck and other parts.

By a perseverance in this remedy a few weeks, he was enabled to go through the harvest, and to work the whole of last winter very comfortably; whereas in the winter of 1819 he was totally unable to feed or dress himself.

On the 17th of February last, he called upon me, in consequence of having felt a slight return of his complaint in his shoulders and hands, when I prescribed him the *spiritus sem. colchici ammoniatus* twice a day; from which, not having since seen him, I have reason to suppose he found the desired relief.—On that day he *walked* from the place of his residence to Ipswich, distant nearly twenty miles, intending

to return home on foot as soon as he was supplied with his medicine. His first journey to me was performed *with great difficulty on a donkey*.

It may be here remarked, that the costive state of the patient's bowels was wholly overcome by taking the vinum sem. colchici—an effect this medicine generally produces; to which I may add, that I have not found it necessary to recur half a dozen times to laxatives, among all the patients for whom I have directed any preparation of the colchicum seeds—indeed, by the assistance *alone* of this medicine, and a well regulated diet, I have been enabled to afford the desired relief in most of those painful and obstinate cases for which I have been required to prescribe.

*Case 7.*—Daniel B., aged thirty-five, of a robust constitution, late of the horse artillery, was discharged from that corps, December 9, 1815, in consequence of rheumatism, with which he had been afflicted a year and a half. His disease attacked him at Blatchington barracks, principally in the feet and ancles, of which he entirely lost the use; but his general health was unimpaired. He applied for my advice in October, 1817, when he was totally incapable of standing without the support of stilts. He was harassed with severe pains in his shoulders and wrists, and also with heat and tenderness in the soles of his feet, to such a degree, that in pressing them even slightly to the ground, he felt a sensation similar to that of placing them on hot iron. There was no external appearance of inflammation in his ancles or other parts of his body; his pulse was natural; tongue almost clean; appetite weak; and he had seldom more than two hours' sleep during the night. He remained nearly in this state upwards of two years, notwithstanding the use of the most powerful anti-rheumatic remedies, both local and general, which produced very little benefit. Early in May, 1820, he began taking a tea-spoonful twice a day of the vinum sem. colchici. In a few weeks his appetite increased, his pains were materially lessened, sleep gradually returned, and his feet were so improved, that, with the assistance of walking sticks, he began to hobble like a person who is just recovering from a severe fit of the gout. A perseverance in the medicine, increasing the dose to a tea-spoonful and a half, with a strict attention to diet, enabled him, by the August following, to undertake the harvest, with eighteen other men,—a task which he accomplished to the entire satisfaction of his employer, and with no other inconvenience to himself than a moderate heat and uneasiness in his feet. He still remains in the same service, where he is employed, chiefly as labourer, from morning till night.

and upon my seeing him a few days since, he assured me, that a slight tenderness in his feet is the only symptom remaining of his rheumatic complaint.

**Case 8.**—Mrs. B., aged sixty-three, originally of good constitution, severely afflicted with rheumatism for seventeen years, was first attacked in her hands, knees, and feet, rendering her, at a very early period of her complaint, nearly a cripple, and totally incapable, during the last ten years, of attending her domestic concerns, or even of moving, without assistance, from her bed to her chair, not three yards distant. In aggravation of her affliction, she was in continual, and often excruciating pain, seldom sleeping more than two hours in the twenty-four.

In this distressing situation, her pains were in some degree alleviated by the use of the cod's liver oil, for two years, when her stomach would no longer retain it.

In May last she commenced with thirty drops of the *vinum sem. colchici* twice a day. In a few days, her pains were much relieved; and since that time she has been rendered so comfortable, that she now enjoys five or six hours' sleep during the night, and nearly as many in the course of the day. Her appetite, which had previously failed to a great degree, has so much improved, since her taking the *colchicum* seed wine, that, strictly adhering to my rules in regard to diet, (*the necessity of which, in all cases, cannot be too strongly enforced,*) she enjoys with comparative hunger whatever is placed before her; and such is her confidence, and the comfort she feels in the medicine, that she eagerly looks for every repetition of the dose—lamenting with tears any little circumstance which retards her receiving it punctually. Crippled, however, as she must always remain, from the contraction and long disuse of her limbs, she now enjoys comparative ease and comfort; for though nature is evidently sinking, and this afflicted individual may be removed, ere long, from all earthly sufferings, yet her latter days have been soothed, and her spirits exhilarated, by this great mitigator of human misery.

**Case 9.**—The following case was transmitted to Mr. S., a professional friend of mine, a short time since, to which I think it necessary to add, that after receiving, I am told, every assistance that could be obtained, John B., aged fifty-four, was considered incurable. He had long been cruelly tormented with chronic rheumatism, and with an indurated, enlarged, and painful state of the right wrist, for which he had experienced very little relief, either from private Practitioners, or those of a county hospital. His master, the reverend

Mr. —, who farmed the glebe land through his assistance, was upon the point of giving up his favourite pursuit, from the inability of his old and faithful servant to continue his situation. Luckily, Mr. S. happened to visit his clerical friend at this critical juncture, September, 1820, and induced him to retard his intention of relinquishing his farm, until a trial had been made of the spiritus sem. colchici ammoniatus, of which he sent him, upon his return home, three ounces.

The salutary effect of the medicine may be conceived by the circumstance of the man being enabled, in the ensuing November, to follow the plough for several hours in the day without difficulty; and it will be still further confirmed, in the mind of the reader, by the following extract of a letter Mr. S. lately received from the reverend gentleman:—

“ John B. describes his pain as fixing its head-quarters in the knuckle or hip bone, and travelling from that point in a direct course through the knee to the ankle. His power of locomotion was completely suspended; and so acute was the pain, that when in bed he was unable to bear the pressure of the superincumbent clothes, which at that time of the year (harvest) was not very great. In two or three days he found considerable relief; and when he had taken two-thirds of the phial or bottle which you sent, he was perfectly restored. About a month ago, he complained to me of a return of the pain in his thigh and knee, and I immediately gave him some of the medicine which was left, and which cured him in a week.

“ At the time when he *first* took your medicine, he was afflicted, and had long been afflicted with a swelling and gathering in his right wrist, which deprived him almost of the use of that arm. Whether this had any connexion with his femoral or crural complaints—it is not for me to decide; but certain it is, that his wrist improved with his other limbs, and that he has ever since had more use of it than he enjoyed for eighteen months preceding. In truth, I feared that his labour was at an end, and of course that my farming occupation was gone.

“ This is all the information I am able to give you, as I know not how to put questions to him; and rustics, as you are well informed, are not always clear in describing symptoms. Of this I am convinced, that he owes his present state of health, if not his existence, to the medicine which he received from you.”

Case 10.— Henry C., aged thirty-six, of a weakly constitution and puny stomach, has been occasionally subject

to severe attacks of rheumatism since he was seven years of age.

In April last, he was suddenly seized, when in good health, with a most violent pain in the right groin, which extended itself in a lesser degree to the knee, accompanied by a sensation as if the thigh bone were broken, on attempting to move the right leg.

The complaint was unattended either by fever or inflammation. A strong liniment was had recourse to during the day with no benefit. A very painful and restless night ensued; and in the morning, the pain continuing *equally* severe, he took, by my advice, thirty drops of the *tinctura*\* *sem. colchici* at twelve o'clock, which in three hours materially lessened his sufferings. By repeating the dose at bedtime, he experienced an excellent night's rest; and the following morning he felt scarcely any pain or uneasiness; and continuing the evening dose for three days, the disease entirely left him.

In former attacks, this young man suffered generally for several weeks, before the complaint could be removed.

## II.

*Case of Laceration of the Uterus.* By RADCLIFFE WOOD,  
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and Surgeon in Oldham.

[With an Engraving.]

PERHAPS there is no branch of medical literature that requires greater candour and truth than the giving publicity to

\* In my first paper on the subject of the seeds of the *colchicum autumnale*, I mentioned that proof spirit was an objectionable menstruum, inasmuch as a maceration of the seeds in it produced a turbid preparation, disposed, after filtration, to precipitate—an opinion I am desirous to withdraw, finding lately that proof spirit is preferable to sherry, on account of the variable quality of sherry, and of its tendency to decompose. I was led into the error of considering proof spirit an improper vehicle for the exhibition of the seeds, in consequence of having used, I find, as proof spirit, that which contained little more than one half the quantity of rectified spirit required to render it proof.

Two ounces (Apothecaries' weight) of the *unbruised* seeds of the *colchicum autumnale*, macerated from ten days to a fortnight in a fluid pint of proof spirit, daily shaking the bottle, produces, when filtered, a highly transparent tincture—in salutary power equal to the *vinum seminum colchici*, and in its preservative quality certainly superior, because not liable to fermentation.

cases. While he who publishes a treatise, which is a work of time, research, and assiduity, is exposed to criticism and censure, the relator of a few insulated cases generally steers free from imputation. Hence the necessity of divesting them of theoretical induction, the particular caution as to truth in their relation, and the degree of suspicion with which they should be perused, or their practical inferences adopted. Notwithstanding, it is highly expedient that remarkable cases should be recorded in some medical manual; otherwise, much valuable and practical matter would be lost to the medical public.

Having attended upwards of two thousand labour cases, during the seven years in which I have been in practice; and the proceeding being solitary of the kind among that number, I trust the faithful publicity of the facts, as they occurred, will not be altogether uninteresting or unworthy the attention of the Profession.

On the 15th of May, 1819, at seven o'clock in the morning, I was called to the subject of this case, an unmarried woman, about twenty-four years of age, of a full habit of body, and in the seventh month of her pregnancy. During the last three days, the liquor amnii had been dribbling from her, attended with an almost constant pain in the region of the uterus, (which she termed a violent griping in her belly,) before which time, nothing unusual had occurred. Her pains were strong, and returned regularly; and upon examination, *per vaginam*, I found the membranes ruptured, the presentation natural, and the orificium uteri dilated to about the diameter of half an inch.

Having remained with her upwards of two hours without perceiving any material alteration, I directed tinct. opii, gutt. 30, in a little aq. menth. sativ. to be given her. About three o'clock in the afternoon I was again summoned, when her pains were extremely violent and distressing, with short remissions. I was informed that the opiate had been ineffectual, and that she had suffered very much during my absence; but on taking a pain, I could perceive no further progress towards the completion of her delivery since I left her in the morning; and yet there seemed nothing to impede the advancement of the fœtus, except the lower segment of the uterus; the pelvis being large, and well formed. Eight ounces of blood were now taken from the arm, and a soothing glyster thrown up the intestines, which was attended with a temporary abatement of her suffering. From a little after five to eight o'clock the same evening, her pains were again regular, strong, and very acute. Notwithstanding, the os tincæ, which was tense, and extremely

tender to the touch, became no more dilated — nor did the child make any further progress.

I was now desired to see a child in the neighbourhood who had just been severely scalded, and who died a few hours afterwards in consequence.

On returning to my patient, having been absent the space of half an hour, she seemed in the most intolerable agony. Her screams were so pitiful, as to cause her female attendants to leave the room, bathed in tears — although one of these sorrowful creatures had given her a large glass of gin during my absence, which, doubtless, very materially augmented her sufferings, and hastened, if not caused the mischief.

She was laid on her left side, in a proper position for an examination, which I immediately attempted, when instantly a mass was expelled, with such surprising force and velocity, as, in my opinion, no human power could have resisted. The moment after this expulsion she became quite easy, and free from pain. The expelled mass proved to be the child, which must have been dead several days, as it seemed little else than a heap of putridity. I now waited a short time for a return of pain in order to extract the placenta (not having divided the funis); however, after waiting a sufficient time without any return of pain, I attempted to pass my hand into the uterus, the chord being so putrid, as not to allow of any force being made on it; but meeting with a loose substance in the vaginal cavity, I concluded it must be the placenta, and accordingly brought it without the os externum; but on attempting to bring it away, the patient uttered a most piercing scream. Finding there was some impediment, I carefully examined the substance, and to my great surprise found it to be the inferior segment of the uterus, a huge laceration having taken place at the posterior and inferior part, extending laterally, and only attached to less than two inches of its anterior diameter. I now attempted a second time cautiously to introduce my hand, when the funis came away, leaving the placenta in the uterus. On passing the labia, I perceived the perineum to be uninjured; (a circumstance I should not have mentioned, had it not been for the instantaneous expulsion of the foetus). On arriving at the pelvic straits I became foiled by the intestines, which completely blocked up the passage: the excruciating pain also which the presence of my hand caused the sufferer, rendered it most prudent to desist. On withdrawing my hand, the convoluted intestines descended, and nearly filled the cavity of the vagina.

Things being in this unpleasant and dangerous state, and my patient expressing herself as being very easy and comfortable when we allowed her to be still, I very carefully returned the lacerated flap of the uterus, which was extremely irritable, within the os externum, applied a few dry warm cloths next her body, ordered her to take nothing but bread, tea, or simple gruel, and to be constantly attended during the night. No hæmorrhage or vomiting occurred. The menorrhagia lochialis was trivial, and entirely ceased before I left her.

I visited her early the following morning, and found she had slept occasionally. She complained of a pain in her belly, which was become sore and distended, and which, she said, had gradually got worse during the night. She had no appearance of the lochia. On a cautious examination, I again very evidently perceived the intestines; but the extreme sensibility of the parts convinced me of the unsafeness and cruelty of persisting in any further examination.

The four succeeding days and nights she was very restless; her skin was hot and parched; thirst great; pulse from 110 to 135 in a minute, small and stringy; abdomen very much swelled, hard, and extremely painful; discharge small in quantity, nearly colourless, and of strong fetor; urine small in quantity, and passed seldom; bowels remained constipated. She drank rather plentifully of acescent liquids; but could not be prevailed upon to take any other kind of either aliment or medicine, or even to have a glyster administered.

20th. — The fifth day after the accident, in addition to the above symptoms, she was seized with a severe pain under the sixth and seventh ribs of her left side; her breathing was short and oppressed; twelve ounces of blood were taken from the arm, which was of a limpid arterial appearance; a blister applied to the part affected; and I insisted on a glyster being administered every hour till a passage was procured, which was attended to. Shortly after the second glyster was thrown up, she desired to be lifted to the night chair; but while they were endeavouring to raise her, an enormous quantity of almost black, and extremely fetid matter, was discharged. The instant this occurred, she fainted in their arms, and I was immediately sent for. I found her a little recruited, having, I was told, been deadly sick upwards of an hour. I judged, from the appearance of the floor, and what was contained in the vessel placed under the bed, that the quantity of the discharge must at least have

been six or seven quarts, and of such an unpleasant fetor, as rendered it almost intolerable for any person to remain in the room. The nurse informed me that the afterbirth was protruded, but she had thought it best to let it remain under the clothes till I arrived; but I found what she called the afterbirth, to be the ruptured portion of the uterus which had protruded, but still attached as before. On questioning my patient, she told me that she was confident the matter had passed both per anum and vaginam.

21st. — She had continued languid and sickly since the syncope of yesterday; pulse was soft and scarcely perceptible; discharge abundant, dark, feculent, and very noisome; abdomen much distended, and extremely painful when I passed my hand lightly over it; on doing which, I discovered a hard tumour, of considerable size, occupying nearly the whole of the umbilical, epigastric, and hypochondriac regions. It was with great difficulty she could, at this time, be kept warm. The blood which was drawn on the preceding day was pale and watery; the coagulum proportionably small, and without buffy coat; blister had risen well, and the pleuritic pain had ceased. About two hours previous to my seeing her, the lacerated segment of the uterus had detached, and was in a highly sphacelated state.

During the succeeding fifteen days she continued in a very precarious state; pulse seldom distinct; extremities, and often the whole body, cold, and deadly to the feet, notwithstanding every precaution to keep her warm; abdomen much distended and painful; tumour stationary; occasionally violent pleuritic pains; breathing short; sometimes incapable of expressing her wishes; urine small in quantity, and voided seldom; had no proper or regular alvine evacuation, but discharged a matter similar to that which occurred on the 20th, from three to five quarts in twenty-four hours successively. This discharge was sometimes per anum, and sometimes per vaginam. A bed-pan, when practical, was, by my desire, placed under her when the discharge was more free than usual, the thicker part of which was generally composed of putrid membranes, pieces of placenta, and fæces.

June 6th. — was the first time I could perceive any amendment; but she then began to relish food, and could turn herself in bed, or lie on either side.

9th. — Her pulse was distinct; abdomen subsiding, and not so painful; felt herself of a more natural heat; discharge rather less in quantity, and more limpid.

17th.—Continued convalescent; had a proper motion per anum the preceding evening; discharge was considerably diminished, and passed only per vaginam.

From that time her recovery was gradual. Bark, wine, &c. were resorted to, and had their wonted effect. I attempted to combat any dangerous symptoms which appeared during her severe illness, but was invariably repulsed. The remedies which I judged most proper, had not their usual tendency; the injurious effects of laxatives was particularly manifest; and the only medicine which she experienced any relief from, until she became very evidently convalescent, was tinct. opii. spt. æther. nitric. aa gutt. 80, aq. carui, ʒj. M. ft. haustus. Capiat pro re nata. This never failed to procure ease and sleep.

Being anxious to know if she was completely recovered, and how the parts had adapted themselves, I sent for her and her mother to come to my house the following Christmas, when they informed me that she had occasionally some difficulty in making water; that the discharge had gradually become less, but had never entirely ceased; that it was of an extremely unpleasant fetor; and that there had been no appearance of the menses. The intestines had receded, and the vagina was blocked up with a very hard, unyielding substance, of scarcely any sensibility, and which I supposed to be the remaining portion of the uterus. Her health was delicate, her countenance pale and sickly, and her form emaciated: indeed, when I viewed her, and called to mind what she had endured, and probably must endure for life, I was almost ready to wish that the all-wise Disposer of events had rendered my feeble efforts to prolong her existence ineffectual.

The only interference which would in anywise have been justifiable, or likely to have prevented the accident in this case, would have been a cautious introduction of the blades of the perforator, within the foetal cranium, (provided the death of the foetus had been previously ascertained), thereby making an opening sufficient to insinuate a small blunt hook, and (carefully guarding it off the uterus) exerting a gentle extractive force, by which means the os tincæ would have become the more immediate resistance, and, consequently, its dilatation would more probably have been effected; but the improbability of a laceration taking place, rendered the impossibility of prognosticating, or foreseeing it. The extreme irritability also of the os tincæ rendered its dilatation in the usual artificial method inadmissible, or, indeed, impracticable. I will not take upon me to say what empirical cruelty would not encounter; but I am constrained to remark, that it is a most lamentable and horrible circumstance, when a

tender female, at the most painful and momentous crisis of her existence, must be subjected to the cruel displays of ignorance.

### Description of the Plate, Fig. 1.

No. 1. Orificium uteri.

No. 2. The left anterior portion, which separated the sixth day after parturition.

No. 3. Posterior.

### III.

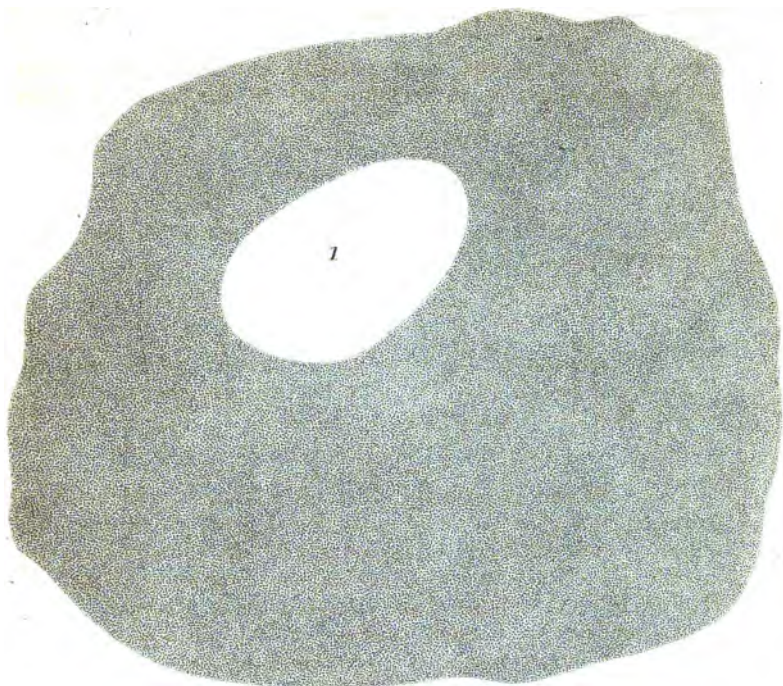
*Case of remarkable Lusur in the Situation of the Second Bicuspis Tooth.* By POWELL BLACKETT, Surgeon R. N. and M.C.S., Park Street.

[With an Engraving.]

THE kind and deservedly great estimation in which every subject tending, even in a moderate degree, to further the noble science of Surgery, is received, has induced me to intrude a few lines in the pages of the LONDON MEDICAL REPOSITORY, respecting the enclosed *lusur naturæ*. I had long intended this present production, but professional and other engagements had totally precluded my giving as minute a sketch as the circumstances of the case seemed to require. Till at length one of my pupils kindly volunteered his services, and enabled me to forward this my long promised article.

It will be, I flatter myself, found, on inspection, a perfectly unique instance of a *dens secundus bicuspidatus*, situated on an horizontal line with the summit of the *processus alveolaris inferioris maxillæ*.

The *dens* is situated in an inverted conical bed, its base pointing towards the *processus coronoidalis*, and the *foramen mentale* is totally wanting. There is, however, a small perforation in the apex of the cone, serving to transmit the vessels, &c. There is no appearance of socket above the tooth, excepting in a very slight degree near the corona, where there is a small void, as if the pressure of the tooth and gum had absorbed the bone as well as the external plate of the *processus alveolaris*, leaving the *dens* exposed, as in the drawing. I should therefore conclude, that during the life of the subject there must have been a space of at least an inch and a half from the *dens bicuspidatus primus* to the *dens secundus molaris*. From the corona of this imbedded *dens* to the *processus coronoidalis*, there are sockets for only two teeth, by which, of course, on the right side of the maxilla, from the *cuspidatus* to the *processus coronoidalis*, there were only three teeth; one *bicuspidatus*, and two *molares majores*. For which see Plate, Fig. 2.



3

*Fig. 2.*



*R. R. R. Jr.*



## IV.

*On the Predisposition to Internal Inflammation.* By  
GEORGE GREGORY, M.D.

[The following is a most valuable paper. We shall be excused for soliciting particular attention to the precepts it inculcates.—Ed.]

IN the investigation of the nature and varieties of inflammatory disorders, the attention of pathologists has of late been chiefly attracted to the differences among them, arising from differences in the structure primarily attacked. There can be no question, but that this topic of inquiry is one of the highest importance, that it has already tended to improve, in no ordinary degree, our views regarding general inflammation, and that a further elucidation of them may confidently be anticipated from a further prosecution of this branch of the subject. At an earlier period of medical science, a high degree of importance was attached, and certainly with some justice, to the varieties among inflammations, arising from differences of *exciting cause*. No one can observe the remarkable differences between venereal and common ophthalmia; between the sore throat which arises from cold, and that which is the result of the poison of small pox, of mercury, or of lues, without being sensible that this source of difference among inflammations merits a degree of attention hardly inferior to that which is due to the former. But these, though important, do not appear to me to include all the questions which a consideration of the varieties of inflammation suggests. I have long been struck with the necessity of directing our views to the *predisposing* causes of inflammation, if we would wish to have a correct idea of the pathological distinctions that exist among inflammatory diseases, and perhaps, I may even add, with reference to distinctions in *practice*.

There appears to be something not well understood regarding the predisposition to inflammation. It has commonly been remarked, that the state of body most prone to inflammatory disorders, is that of *tone* and *vigour*. It has been described as a state of extreme health. Dr. Cullen's words are, "that the inflammatory diathesis chiefly prevails in systems of the greatest vigour." A full habit of body, a plethoric state of vessels, a tension of fibre, are the terms which have usually been employed to convey an idea of the state of the system, when predisposed to acute inflammation. Nor has this general notion of the *predisposition to inflam-*

malion been a mere matter of speculation with Physicians. It has exerted a most powerful influence over their practice in inflammatory disorders. Supposing the benefit of blood-letting in these cases to have been originally the discovery of accident, yet to this source must be attributed the prevailing theory, that blood-letting operates by counteracting that state of *tone*, and *vigour*, and *tension* of the system, which is believed to be so favourable to inflammation. In this country, the effect of the principle may be traced still further, in the disposition which exists, in almost all Practitioners, to carry blood-letting, in severe cases, *beyond*, rather than risk being the least *within* the verge of actual necessity. It has led, in like manner, to the complete exclusion of all stimulating medicines from the treatment of inflammatory diseases, and very often to the prohibition, or, at least, very scanty supply of nourishing articles of diet during the period of convalescence. The notion has always been, that the inflammatory diathesis is a state of tone and vigour, and that the safest error, therefore, is that which inclines to keeping the system *weak* and *low*.

When we reflect, then, how directly applicable to practice are the views of Physicians regarding the predisposition to inflammation, we cannot, I think, refuse to acknowledge the necessity of satisfying ourselves that our foundations are secure. We cannot deny that an inquiry into this subject is at least as equally necessary as into the structures primarily attacked; a branch of the general doctrine of inflammation, which, as far as I know, has hardly as yet been made, in any degree, subservient to practice.

There may be some who will at once refer to practice; as a sufficient proof that such an inquiry is unnecessary. They may urge, that the acknowledged success of our treatment of inflammatory diseases is alone a convincing evidence of the correctness of the general principles upon which we act. But if any argument can be considered sufficient to supersede the propriety of inquiry, it is surely not this. Every one must have observed but too often, that, with all the care and skill which can be exerted, inflammatory diseases prove fatal. This is usually ascribed to one of three causes; either to the original violence of the disorder, which precluded, from the very first, all hope of safety by the exertion of medical art; or to the lateness of the period at which active measures were had recourse to; or, lastly, in some few instances, (with more liberality, perhaps, than strict justice,) the Practitioner is content to take the blame to himself, and to admit that he did not push these resources to their proper extent.

In such cases, it has probably seldom occurred to the Practitioner to inquire, whether there may not have been another cause to which the fatal event might have been attributed—I mean, the pushing of his depleting measures too far. To place the subject in a more general point of view, it may be asked, whether his want of success may not occasionally be attributable to the incorrectness of some one of the principles which regulated his system of treatment. Being myself inclined to think that this may, in certain cases, be the true solution of the question, I cannot acknowledge any force in that objection to the inquiry which I propose to institute into the predisposition to inflammation, which would triumphantly appeal to *practice* in proof of the justness of our present views regarding it. I have thought it, on the contrary, a subject well worthy of accurate investigation; and in the following observations, it shall be my object to throw out a few hints which may tend to solve the question, “how far we are warranted in giving entire credence to the ideas commonly entertained by pathological writers regarding the predisposition to inflammation?”

From the time that I first entered into practice, I was struck with the circumstance, that almost all the instances of violent acute inflammation which came under my observation, occurred in persons who had been complaining for some time previous, or who had actually undergone some severe disease, or who were decidedly of weak habit of body, or among the poorest and worst fed of the population. The most severe case of pneumonia that I ever saw, occurred in a young man in the last stage of diabetes. It proved fatal in forty-five hours from the first invasion of thoracic symptoms. The most severe case of enteritis that I ever witnessed, occurred in a child, who, by the accounts of the neighbours, had been miserably fed, or rather half starved during the previous winter. Every one is aware how liable scrofulous children are to inflammatory attacks, and the scrofulous habit is certainly not one of *strength* or vigour. It is equally well ascertained, that in such children the disposition to inflammation is diminished by sea air, sea bathing, a nourishing diet, and whatever else tends to give strength and tone to the system. On no occasion are children more liable to attacks of pneumonia, than after small-pox, or measles. Hydrocephalic symptoms frequently supervene upon scarlet fever. In the latter stages of the most weakening disorders, how frequently do we find acute inflammatory symptoms coming on,—peritonæal inflammation, for instance, towards the close of phthisis pulmonalis?

It is unquestionable, that in some cases, inflammation attacks persons apparently in perfect health. In most

of these, however, it will be found, on inquiry, that the constitution had given previous evidence of weakness, or that some previous disease had existed, weakening a particular organ or structure. Upon the whole, from the most extensive survey which I have been able to take of inflammatory disorders, I feel persuaded, that the state of body in which cold, and the other exciting causes of internal inflammation are most likely to operate, is not one of strength and vigour, but of *weakness, irritability, and atony*. This conclusion regarding the nature of the inflammatory diathesis, is more accordant with the simple dictate of reason, than the one which I believe to be chiefly inculcated in medical works. There is something revolting in the idea, that the state which approaches most nearly to perfect health, is, at the same time, the most favourable to disease.

It may be worthy of inquiry, whether the predisposition to inflammation is on a par with that of fever, hæmorrhage, spasm, and the different general states of chronic disease. Speaking generally, I presume there can be no doubt but it is; yet there are probably peculiarities in each, which may be deserving of separate investigation. On several accounts, however, I am unwilling to enter upon this inquiry at present, and shall reserve it for discussion in a future Number.

The question more immediately before us, is connected closely with the doctrine long maintained of a distinction of inflammations into *active* and *passive*. Whatever foundation there may be for this distinction, it will probably be found to rest on some differences in the *predisposition* to inflammation; but the loose manner in which these terms have been used, and the imperfect way in which the doctrine has been developed, render it unnecessary to enlarge further on this head.

It has already been noticed, and it is certainly a very remarkable fact, that inflammation, when it occurs in worn out and weakened habits, is almost always of a highly aggravated kind. It is curious to observe such severe cases of inflammation commencing in exactly that state to which the body would be reduced by the means which we commonly employ for the relief of inflammation. Most of these cases prove fatal. We usually account for this by saying, that the constitution is weakened, and unable to bear up against the *necessary* depletion. But it may be asked, whether such depletion is really necessary in these cases? — Whether there is not a certain habit of body, in which, when inflammation occurs, a different system of treatment must be pursued from that which is successfully employed in a different habit? — Whether inflammatory affections, under certain

highly aggravated circumstances of previous debility, are not decidedly increased by the severe depleting system usually followed in this country?

These are important questions, the answers to which are not so obvious as might have been anticipated from the uniformity of our antiphlogistic treatment. I would reply to them in the following manner. Without attempting at present to establish any strong line of distinction among inflammations founded upon differences of predisposition, I would urge as an important principle in pathology, that there are cases of internal inflammation which will not bear the common treatment, and which may even be aggravated by it. I am far from saying that the system of treatment proper in these cases, is totally different from that which is followed under more common circumstances. Probably the same class of means should be adopted, but they are to be handled differently.

To distinguish, in practice, the cases of inflammatory disease in which this caution is requisite, is by no means an easy task. It must be attempted by paying attention, in the first place, to the circumstances of predisposition, and, in the second, to the symptoms present. When an inflammatory disorder occurs after a long course of scanty or bad food, or when it follows diseases attended with much debility, it may be expected to be of this kind. The pulse, in this form of inflammation, will be found different from that full and strong pulse which characterizes common inflammation. It will be found full, but easily compressible—a state of pulse which I have been in the habit of designating by the term *open pulse*. If a vein is freely opened, it will often be noticed that the blood suddenly stops, without any change in the position of the arm. After a bleeding, the patient does not express himself *lightened*, as is usual where venesection is decidedly beneficial, but *weakened*; and he consequently dreads a repetition of the evacuation. If we can, by these means, with any degree of certainty, distinguish, in practice, the cases in which a vigorous antiphlogistic treatment is required, from those where it is questionable, it will surely be right to do so, were it only to save ourselves from the reflection, that we had, *unconsciously*, added to the danger, or accelerated the fate of our patient. If we cannot, I am ready to admit that we had better continue as before, treating all internal inflammations upon the same principles, rather than incur the risk of losing one that active treatment might have saved. It is unnecessary for me to express my firm conviction, that by far the largest proportion of inflammatory diseases are to be benefitted by early and liberal venesection, and by that alone.

It may, perhaps, be argued, that the views here adopted, regarding the predisposition to internal inflammation, would go to prove that venesection is improper in every such case of disease. But this appears to me to be unwarranted. That blood-letting acts by diminishing the tone of the general system, is a theoretical notion which can never be either altogether proved or disproved. It is sufficient for our purpose to know, that experience has shown it to be decidedly efficacious. The practical reflections that result from the remarks already made, do not go to impugn the necessity of blood-letting, but to show on what principles it is to be regulated, to what extent it is to be carried, under what particular circumstances it may prove equivocal or possibly actually prejudicial, and where; therefore, it may be boldly, and where cautiously practised.

As one corollary from the preceding reasonings, I am aware that it would necessarily follow, that venesection cannot be trusted to with a view to prevent inflammation; nay, in some cases, it might even tend to increase the predisposition to that state of disease. Some persons may consider this as a decisive argument against the doctrine I have attempted to support; but I may anticipate this objection by stating, that experience will hardly bear out the views entertained by some authors, regarding the power of venesection in preventing inflammation.

It would follow, as another corollary, that, in cases where blood-letting has produced a decided effect upon the system, and a state of syncope has been induced, stimulant medicines may be administered without the risk, so usually dreaded, of renewing inflammation. Of the correctness of this principle, I have seen sufficient to convince myself; and the present essay will not have been written in vain, if it impresses upon those who are young in the Profession, the necessity of supporting the system by cordials in severe cases of inflammation, where large and repeated bleedings are indispensable for the removal of the local affection.

I again repeat, that the object of the present paper is to show, not that bleeding can be dispensed with in cases of inflammation, but that it is an evil, though a necessary one; that, therefore, not one ounce of blood should be drawn more than the circumstances of the case render imperative upon us; that in all cases the effects of blood-letting are to be carefully watched, and our practice regulated upon them, and not upon any preconceived notions of the certainty of deriving benefit from such a source—and this more especially in those most formidable of all inflammatory cases, where the constitution was previously debilitated to any considerable degree.

## DEPARTMENT OF NATURAL HISTORY, &amp;c.

Calendar of Fauna, Flora, and Pomona, kept at Hartfield, near Tunbridge Wells. By Dr. T. FORSTER. From the 1st to the 30th of April, 1821.

April 1st. — The Least Willow Wren (*Ficedula Pinetorum*\*) first heard to-day.

2d. — *Doronicum Pardalianches* and *Tulipa Suaveolens* in flower at Hartwell. *Narcissus minor* in full blow at Hall End. *N. Pseudonarcissus* in flower abundantly in the fields, while its double variety decorates almost every garden.

3th. — *Narcissus incomparabilis* and *N. latus* in blow.

4th. — *Viola Canina* and *V. odorata* common on all the banks.

10th. — *Caltha palustris* plentiful near Newick and Hartwell.

11th. — *Narcissus pseudonarcissus* still fills many fields with its yellow cups. *Doronicum Pardalianches* in full flower at Hartwell; also *Fritillaria Imperialis*. In the woods *Oraxis acetosella* abounds; also *Anemone nemorosa*, &c.

15th. — *Stellaria holostea* and *Cardamine pratensis* become common.

20th. — Swallows (*Hirundines rustica*) seen.

22d. — The Leopard's Bane is now come out at Walthamstow, where it is much later than at Hartfield.

24th. — Swallows become rather more common, and are seen about their old haunts on the chimneys. The weather is become fine and warm, and the leaves are coming forth on the *Ulmus saberosa*, *Aeschylus hippocastanum*, *Populi*, and others.

25th. — *Ranunculus aquatilis* in flower.

26th. — The warmth of the weather increases, with vespertine lightning, and other summer-like appearances. The Cuckoo sings. The Redstarts, both male and female, are seen, with the Yellow Wren (*Ficedula Salicum*), the Black-cap (*Curruca Atricapilla*), and other vernal songsters. The heat of to-day is about seventy degrees of Fahrenheit. The fields are already bespangled with *Ranunculi*.

\* This bird is the *Sylvia Trochilus* of Latham, and other authors who wrote before the publication of Dr. Leach's excellent improvements in Ornithology, by a judicious subdivision of the genera, founded on natural distinctions.

29th.—The wind got to north, and colder. The leaves out on the trees, though by no means forward. *Ranunculus bulbosus* and *R. acris* in full blow.

30th.—The weather cool and cloudy; wind N.N.E. *Cherophyllum Sylvestre* abundantly in flower. Tulips, &c. in the gardens\*.

[This Journal is to be continued in the neighbourhood of Tunbridge Wells.]

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## PART II.

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### ANALYTICAL REVIEW.

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GENERAL REVIEW of Medical Literature; comprehending Notices of the several Publications on the Subject of Medicine, which were Published between June, 1820, and January, 1821; including the Transactions of the London and the Irish Colleges, and many other Works of Importance.

“Per aperta volans aquora.”

It will have been already observed, that the preliminary plan of medical retrospect has been somewhat changed; and that we have recently rather occupied our pages by a posthumous notice during the current half year of the publications, in the semi-annual period immediately preceding. Without again going over the ground of preference given to this plan, we now proceed to put it into execution, by bringing before the notice of the readers the several works which remain for review. It may be just necessary to say, that the very nature of our undertaking will cause occasional deviations from its strict and absolute fulfilment; since we are sometimes called upon to review works which, being of immediate interest, it would be improper to defer the notice of till the orderly time, according to this arrangement; and again, the period allotted for the supervision of every treatise may not prove sufficiently ample for the completion of the design; and in that case, we must content ourselves with a general

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\* It is a circumstance worthy of note, that the fructification of almost all the plants of the *Tragopogon porrifolius* is cut off this year, being destroyed by a remarkable species of chocolate powder, probably some fungus, which occupies the place of the blossom. May 15.

intimation of the nature and merits of some of the more important books, deferring an account commensurate with their value to a future opportunity. We feel it more than probable, that in the present instance we shall be in the predicament now referred to; and that this paper, although purposed to be quite as ample as our pages will possibly admit, will not prove of sufficient dimensions to include the whole of what we are desirous to effect.

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We have more than once prefaced our "general review" by some separate remarks on the three important topics or medical disquisition—fever, vaccination, and syphilis—topics upon which the judgment and opinion of the Faculty are still far from being unanimous. In opening the various treatises with which the press is laden, how discrepant do we still find the sentiments of our brethren, as well in reference to the source, as to the actual essence and most desirable mode of treating idiopathic fever; nay, whether there is any such thing as fever that is not merely symptomatic and sympathetic, constitutes a point of discussion down to the present moment. Fever, say some, is a general, say others, is a local disorder; the primary series of deranged actions which mark its presence, is in the nervous organization, according to the views of one pathologist; while another contends for the origin of the malady being vascular, and vascular alone. And as to the something which brings about these topical or universal, these vascular or nervous deviations from health, how easy is it to demonstrate, according to the allegations of some medical speculatists, that they arise from a specific and peculiar source; while others laugh in your face at the very supposition of this, as they contend, mere imaginary and ideal existence, talk of fever as a general expression of a disordered state, and deem its various modifications to be merely accidental, or, at furthest, incidental upon time, place, and circumstance. But do we agree as to the mode of combating the enemy with which we are called upon to grapple? Alas! for the consistency of medical science, we are yet widely at variance, even on this momentous question. One of our writers talking, with the utmost sang-froid, of bleeding his patients till the shades of death encompass them about, and it becomes necessary to interpose strong stimulus, or the individual sinks; while another turns as pale almost as the half killed patient of his bolder brother, at the very notion of detracting blood at all in such a complaint as fever. Intermediate, still, is our own opinion on these controverted points. That actual fever may, be

fully developed by a something pervading in its influence the whole frame, without stopping to engage any one organ, or any particular tissue, appears, to our conception, to be at least more than probable; while, on the other hand, we would allow the possibility of the disordered series occasionally commencing from a part. Secondly, that there is an actual *materies morbi*, by which febrile action, even of the least apparently specific kind, is engendered, and *ἑτερος ἀπ' ἑτέρου* propagated, is, to our conception, pretty evident, despite of the anti-contagionist's creed; but then we are bold to believe, and to express our belief, in the occasionally spontaneous origin of most of these fevers; and to call in question the contagionist's assumption of the positive and unassisted agency of this same morbid poison upon which the malady had depended, and his notions of its facile conveyance in the way of a specific agent from one part of the globe to another—that other part not being favourable to its development and diffusion\*. And, lastly, as to the curative part of the concern—it is, we feel, equally improper to be scared by the name of fever from occasional and pretty free depletion, as it is to deem an individual unsafe in the disease, unless he is bled, and bled, and bled, *iterum, iterum, iterumque usque ad deliquium animi*.

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On the first of the above points in dispute, we have to announce a very able and erudite work, in which the doctrine of contagion is advocated with a great deal of force, and a considerable degree of interest. We allude to Faulkener on the Plague†, in which, after some preliminary remarks on the local advantages of Malta, in respect to climate, soil, and habits of the people, the author goes on to consider the chief causes which have led to errors on the question of contagion. These are, he says, “The instability of the condition of the living system; the ascendancy which opinions and prejudices obtain over the judgment; indolence of the investigation of facts; and, lastly, from too precipitate and incautious use of facts.” Our author thinks that the arrival of

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\* We wish it had been in our power to announce a book as actually published, which, however, is on the verge of publication, by our learned and respected friend, Dr. Hancock; in which we think it will be satisfactorily shown, to all unprejudiced persons, that the contagionist and anti-contagionist have both been wrong in arguing the question too abstractedly.

† A Treatise on the Plague, designed to prove it Contagious, &c. &c. By Sir Arthur Brooke Faulkener, M.D., &c. &c.

the ~~introduction of~~ Malta, was demonstrably the occasion of the plague's introduction into that island; which arrival took place under the following circumstances:—

“Two Turkey merchants shipped on board this vessel, at the port of Alexandria, a cargo of linen, flax, and leather, with some other articles. Part of the crew having died of the plague in their voyage to Malta, the vessel applied to the health department of the island on her arrival, (the 28th of March,) for admittance into port, previously using the precaution to notify her state by hoisting a yellow flag, with a black ball in the centre—this being the signal to indicate the actual existence of plague on board. Her application being acceded to, she was accordingly received into quarantine, in the Marsamuchet Harbour, within about a cable's length of several points of land, and of the city Valetta. The surviving part of the crew were taken into the lazaretto, situated in a small island in the middle of the harbour. The captain of the San Nicolo and his servant sickened in a day or two after being received into the lazaretto, and died with indisputable symptoms of the plague.”

Sir B. Faulkener, after this statement, proceeds to trace the infection from this origin through several individuals, till the disorder became general. All this appears to be very satisfactory and convincing, taken abstractedly; but when these circumstances are considered in connexion with others, we think they certainly fail to prove what our learned author wishes to prove—that plague is as independent for its generation and spread upon time and place, as is small-pox. How does Sir B. explain the allowed fact, that—

“The plague, in 1812, raged in Constantinople, and throughout Asia Minor; yet, *although the communication between this city and Alexandria was uninterrupted, the latter remained perfectly free from contagion.* At the Island of Scio, distant but a few hours' sail from Smyrna, where the plague was raging with violence, and from whence persons were daily arriving at the island, the British consul (a Greek) observed to Mr. Leigh and his friends, ‘that he had no fear of infection being communicated from Smyrna; but,’ said he, ‘should the plague declare itself at Alexandria, several hundred miles distant, we shall certainly have it at Scio.’”

But we will not at present pursue this discussion further. When the small volume, to which we have above alluded, from the pen of Dr. Hancock, shall have made its appearance, we will lose no time in resuming the consideration of infectious and contagious maladies; and shall then have more particularly to refer to Sir B. F.'s very interesting treatise, in conjunction with some others. Into this engagement we enter with a determination shortly to fulfil it.

In considering the circumstances actually productive of the febrile state—the proximate cause—as it was wont to

be named, of fever, we are called upon, in compliance with a notification made in a preceding Number, to advert to the ingenious speculations of Dr. Whitlock Nicholl\*, who, in our mind, has conducted the discussion of febrile ætiology with no inconsiderable ability. One merit, as it appears to us, of Dr. N. is, that he takes, as it were, a panoramic, instead of a partial view of his subject; and considers disordered affections with reference to *all* the connected actions of the human frame, instead of setting about to ascertain whether fever's essence be this, or that, or the other; and assuming that it must begin from one single point.—

“The primary cause of fever,” says Dr. N., “may induce a contracted state of the small arteries, whence may ensue an obstructed state of the circulation, and, consequently, diminished action of the heart, and a plethoric or congested state of the cerebral blood-vessels, whence will arise diminished sensibility of the nervous system generally.

“Or the primary cause of fever may induce diminished action of the heart, whence will arise diminished momentum of the blood, and consequently, increased contraction of the small arteries, and congestion in the cerebral blood-vessels, which will give rise to diminished sensibility of the nervous system generally.

“On the primary cause of fever may induce diminished sensibility of the cerebral structure, and, consequently, of the nerves also, whence may arise increased contraction of the small arteries, both which effects may induce diminished action of the heart.

“The three states, then, which produce the symptoms of the early stage of fever, may occur in either of the three following orders, viz. :—

1. Contraction of small arteries. Diminished action of the heart. Torpor of the nervous system.

2. Diminished action of the heart. Torpor of the nervous system. Contraction of small arteries.

3. Torpor of the nervous system. Contraction of the small arteries. Diminished action of the heart.”

In this way does our author proceed in his explanation of the two following stages of fever, supposing always, as a circumstance necessary to be allowed and appreciated, that the primary link in the chain of successive action is not, necessarily, the same in every instance—a fact which we think had been generally overlooked, prior to the speculations to which we are now adverting.

Dr. Nicholl maintains, that during the second stage of fever, the increased quantity of blood which flows through the small arteries is not, in the general way, to be referred to

*General Elements of Pathology.* By Whitlock Nicholl, M.D. &c. &c.

the contracted state of the first stage having been overcome, but to the increased action of the heart, enabling the blood to force its way into and through these arteries, in spite of the opposition which is offered, by their contractile power, to that fluid. In this opinion, we perceive him to be at variance with an ingenious lecturer, whom we have but this moment heard at the College of Physicians\*; and who, ascribing the increased flow of blood in the second stage of fever to the comparatively relaxed state of the capillaries, further accounts for the continuance of the hot stage, and the non-appearance of perspiration, to a state of contractility of the mouths of the arteries opening upon surfaces, while the vessels themselves are in a condition of relaxation. In this way Dr. P. supposes that there is a kind of sphincter action in the orifices of the exhalents, similar to what is observed in the urinary bladder and rectum; and which, in these last instances, is known to alternate with the bodies of the organ to which they are attached — contracting when they are relaxed, and *vice versa*. It is not in order, to bring these lectures at present under notice; but we could not avoid just alluding to what appeared to us an ingenious mode of accounting for a phenomenon that has hitherto received no satisfactory explanation, viz., that sweat does not immediately follow that increased action of the vessels upon the superficies of the body, which succeeds to the subduction of the first stage of fever.

Were it a proper place to go into the doctrine of inflammation, we might state that Dr. Nicholl's views on this topic, appear to be marked by a clearness which is not usual with authors who treat on it — and why so? because he takes into account the altered state of the nerves, as well as of the blood-vessels, to explain the state in question. Inflammation is not, according to Dr. N., mere local plethora; but with such topical fulness of vessels, an irritative state of nerves is likewise necessarily present; and, what is important, the state may be both caused and cured by applications made, in the first instance, upon either the vessels or the nerves.

“When inflammation has existed in a part, if the plethoric state of the blood-vessels of that part be removed, the inflammation will be converted into irritation; and if inflammation, being present, the irritative state of the nerves be removed, the inflammation will be converted into simple plethora.”

But of this by the way. We have great pleasure in announcing the receipt of a paper from Dr. Nicholl, in which his views of inflammation are more fully developed; and

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\* Dr. Park.—Gulstonian Lectures at the College of Physicians.

which paper is intended for publication in the next, or, at furthest, a very early Number of the *Repository*.

A few words remain to be said on the general principles which should regulate the treatment of fever; and here we have great pleasure in citing Dr. Nicholl's words, as practically correspondent with his pathology, and in harmony with our own feelings, in reference to remedial indications.

"The variety of character which is observable in different cases may be, in a great measure, dependent upon the means which are adopted by the Physician. If the increased sensibility of the nervous system, and the increased action of the heart, which are present in the second stage, are the natural results of the diminished sensibility, and the diminished action of the heart in the previous stage; and if the torpor and the feeble action of the heart in the third stage, are the natural results of the states which characterize the second stage; we may, by using means in the early stage, which are calculated to diminish still more the sensibility of the nervous system, and the action of the heart, cause the states which characterize the second stage, to arise sooner, or to take place in a greater degree than they otherwise would. And if we endeavour to ward off the attendants of the third stage, by using means during the second stage, which are calculated to increase the sensibility of the nervous system, and to promote the action of the heart, we may hasten, or we may cause to arise, in an increased degree, that torpor and that feeble action of the heart which it was our object to prevent."

"In managing fever of this description, our business should be, so to treat it in its several stages, that we may guide it to a mild and favourable termination, by moderating gently the states characteristic of each stage. Whereas it may happen, that by using powerful means in either stage, we may cause a violent and protracted alternation of states, which may place the life of the patient in greater jeopardy, than it would have been had he been left to struggle through the attack without assistance."

The above law, however, in its practical bearing, is susceptible of one modification, making almost an exception to the rule. The qualification we allude to, is that of forcibly breaking into the series of disordered associations by powerful measures, at the onset of the derangement, and while the constitutional stamina of the subject is so little impaired by the disease, that such dashing interference may be instituted with impunity. In other cases, we deem the moderate, and, if we may so say, *natural* management of fever, to be more advisable than the adoption of those vigorous plans, which are founded in defiance of Nature's dictates; and when we hear of blood-letting to such an extent, and for such a continuance, that the chances of

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\* See likewise a paper on inflammation, in the present Number, from the able pen of Dr. Gregory, p. 4571

extinguishing life seem at least equal with those of extinguishing the disorder, we cannot but feel that the practice, however it may be commendable for boldness and decision, is, at the best, far from being laudable for policy and prudence.

If, however, we should find that repeated censuses of the comparative mortality in fever, give the proportion of deaths at a lower rate in the long run, from any particular plan of treatment, we should be bound to adopt that plan, even in defiance of all our preconceptions, which, in that case, should be denominated prejudices. Let us hear, then, what is advanced by contending authorities, in reference to this, after all, the most important consideration. —

“ On the treatment of fever,” says Dr. O’Brien, one of the latest authors on the subject\*, “ much has already been written; and *I am not aware that recent discovery has added any thing to the stock of remedies long since known.* I need not repeat, that blood-letting has been of late a subject of frequent discussion, and even of dissension, as a remedy for this disease. It appears that a tolerable degree of unanimity at present exists as to the utility of blood-letting in most, if not all cases of fever; due attention being paid to the period of disease, constitution of the patient, and other controlling circumstances. Some difference of opinion, however, still exists as to the quantity to be extracted within a limited time. In a report of the Queensbury-House Fever Hospital in Edinburgh, recently published, I find that blood-letting has been carried to an extent at that institution not generally necessary, even in the phlegmasiæ; but I do not think its success has been, by any means, so remarkable, as to warrant its general adoption. *The mortality stated in that report one in twenty-two or twenty-three in the year 1818, has been more considerable than that in the house of recovery, Cork Street, for the same period, where it was only one in thirty, (and it was still much lower than this in Stevens’s Hospital, where no chronic cases were admitted into the fever wards), and where moderate blood-letting only is practised, and even this with much circumspection, and cautious attention to the circumstances of the patient.* So many cases daily occur in which a patient, under very desperate circumstances, fully as desperate as those of the fatal cases detailed in the report above mentioned, recover by a palliative and cordial treatment alone, assisting nature in the struggle, that the Physician who takes thirty or forty ounces of blood at an advanced stage of the disease,

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\* Medical Report of the Fever Hospital and House of Recovery, Cork Street, Dublin, for the Year ending January, 1820. By John O’Brien, M.D., &c. &c.—Transactions of the King’s and Queen’s College of Physicians, Ireland.

and then loses his patient, certainly deprives himself of the consoling conviction of having done no harm — a consolation not, to be counterbalanced, in my opinion, even by the success of a hazardous experiment.

Similar opinions on the subject of blood-letting were expressed by Dr. Grattan, in the same volume; and, let it be observed, that these are among the last reports on the subject of fever. If, then, hospital mortality, under any system of treatment, can be proved so low as one in thirty, we should think the propriety of the practice almost demonstrated. It must always, however, be recollected, that reports from particular districts, and even different hospitals, are never absolutely proof of the thing endeavoured to be made out by them; since time, place, and circumstance, and even, spite of the ultra-contagionist, the epidemic atmosphere will display a controlling influence, which may materially modify the result.

The only publication remaining for notice on febrile diseases, is one by Dr. Harty\*, which consists of a very minutely detailed account of the recent epidemic of Ireland, with a map of the country, marking its course and progress. The statements which Dr. Harty presents of the relative and proportionate mortality of different districts, and of different times, fully justifies the intimation just given, that the number of deaths, or of recovery, is not, in all cases, absolutely demonstrative of the rectitude or otherwise of the treatment. He tells us that the average hospital mortality of Ireland, in preceding years, may be rated at about one in fifteen; that of Dublin, (including all its fever establishments,) was as high as one in eleven, during the thirteen years preceding the epidemic; while the mortality, during the existence of the epidemic, was only about one in twenty-five. In Manchester, to the close of 1819, it was one in eleven. In Leeds, one in twelve three-fourths. In London, one in eight one-fourth; and, during the year 1819, the mortality in the London Fever Institution was so high as one in five ten-thirteenths; in preceding years, one in ten.

When our proposed inquiry on the subject of contagion and infection is entered into, we shall have again to take up and notice this treatise of Dr. Harty; at present, we can only say further, that it is a work of very considerable labour,

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\* An Historic Sketch of the Causes, Progress, Extent, and Mortality of the Contagious Fever Epidemic in Ireland, during the Years 1817, 1818, and 1819. By William Harty, M.B.; &c. &c.

and will prove a valuable document in times to come, for all who may be interested in the investigation which it involves.

With respect to vaccination, but little has been adduced since the very important and satisfactory work of Mr. Cross, a full analysis of which will be found in the *REPOSITORY*. Dr. Jenner, it seems, intends taking up the inquiry, as to the modifying power of cutaneous irritations, even of the most simple kind, over the vaccine influence upon the constitution, expressing it as his opinion, that "every disease of the skin which may be called *serous*, or one that sends out a fluid capable of conversion into a scab, has the power of exciting this modifying and counteracting influence." He states further, that having remarked in one instance an irregularity in the vaccine vesicle, and the skin being free from any apparent eruption, he was puzzled to find the cause; but upon minute investigation, he discovered a whitlow on the thumb. From this slight circumstance, did the vaccine vesicle deviate from its ordinary course; and in this case, the subject would most probably have been obnoxious to modified small-pox, when exposed to the contagion†.

We are concerned to find, by a pamphlet but this moment come to hand†, that at Repton upon Trent, and its vicinity, inoculation has, within the last half year, obtained a sanction and an encouragement which could not have been surpassed, had the invaluable discovery of vaccination been never heard of in that district; the number of inoculated, in the short space of a few months, having been estimated at upwards of five hundred! and, what is exceedingly to be lamented, we find that the clergy at Repton, and the master of the great school of that place, encourage the practice of variolous inoculation. The object of the pamphlet is to check the dreadful mania thus about to be productive of such dire consequences; and we hope that it will find many readers, and converts from among the unprofessional classes of the community. Mr. Granger and his associates state, that the circumstance of a farrier having vaccinated often without

*REPOSITORY*, No. 31, page 202.

† Dr. Jenner, in his circular letter on this subject, alludes to some remarks of Dr. Kausch, in reference to the modifying source adverted to, which are to be found in the *REPOSITORY*, No. 34, page 502, Vol. XIV.

↓ Address to the Public, relative to some supposed Failures of the Cow-pox at Repton and its Neighbourhood, &c. By B. Granger, Surgeon.

regard to the particulars necessary to ensure safety, is sufficient to account for the inefficacy, in some cases, of the preventive measure. They go on to remark upon the amazing increase of mortality from small-pox, since inoculation had been practised prior to the vaccine discovery; urge the universally acknowledged advantages which vaccination possesses over variolation, provided the equal efficacy of the former be granted; and allude to the very important fact, related by Mr. Cross, that during the late epidemic in Norwich, out of *ten thousand* vaccinated persons only *two* died of the small-pox, while five hundred and thirty of those who had not been vaccinated, lost their lives by it. They conclude by maintaining that the instances of second small-pox are at least quite as proportionately numerous, all circumstances being taken into account, as those of the disease subsequent to vaccination; and that the distemper, when thus occurring a second time, is not so modified and mitigated in the general way, as it is by vaccination. Upon the whole, the pamphlet appears well calculated to aid the great cause for which it was written; and we think it might be advisable for medical men to put it into the hands of such of their patients as are still wavering on the rectitude of vaccinating their offspring.

It may just be stated, before we conclude our allusions to the vaccine question, that Sir Gilbert Blane has published, in the form of a pamphlet, the remarks on this subject, which had already appeared as one of the articles in the *Medical-Chirurgical Transactions*; and as such, was some time since pretty copiously reviewed in the *REPOSITORY*.

On syphilis, and pseudo-venereal affections, and on the expediency of treating these affections without the aid of mercury, nothing has been given to the world, during the period that the present paper embraces, in the way of review. It would appear to be the general feeling at present pervading the medical public, that syphilis, like fever, has considerable dependence, both in its aspect and in its remedial demands, upon time, place, and circumstance; that mercury, although specifically operative upon the syphilitic poison, is by no means, in all cases of lues venerea, indispensable; and that the anti-mercurial champions, although they may have carried their allegations respecting the non-specific character of genital diseases, and their antidotes, to too great a length, have done a vast deal of good, both in checking the indiscriminate employment of the medicine in question, and in

inducing caution as to the propriety of its use, in despite of the irritation that it may occasion; it being now a pretty well established principle in surgical practice, that, even when mercury is the remedy most likely to prove effectual in arresting either primary and local, or secondary and more constitutional malady, its use may often be for a time suspended; and even altogether superseded; other medicals, possessing an alterative virtue of a less inflammatory or irritating character, being employed in its stead.

We now proceed to notice those works which remain to be particularized, as having been published prior to the close of the preceding year; and it behoves us to make an apology for not having previously reviewed the volume which first falls before us for notice. The fact is, that the Transactions of the College of Physicians, Vol. VI., was, immediately upon its publication, sent down to one of our ablest writers in the list of critics; but his professional engagements having from month to month prevented the fulfilment of his design to transmit us a lengthened analysis, we are now under the necessity of putting among the cryptogamia, what ought, both in compliment to the high body from which the publication emanates, and in justice to its intrinsic value, to have occupied a more conspicuous place in our REPOSITORY.

The first article in this miscellany is from the pen of Dr. Yeats, on strangulated hernia: a case is related, which yielded to the external application of ice. Submuriate of mercury had been administered, and leeches applied to the tumour. "As soon as the blood from these had ceased to flow, ice, broken into small pieces, was applied, and confined by surrounding it with a twisted towel, leaving an open circular space, that more might be supplied as it melted." The following night, after clysters and the submuriate had been repeated, the hernia, with the testicle, had returned into the abdomen, although an unsuccessful attempt had been made at reduction on the afternoon of the previous day. In these cases, Dr. Y. argues that general bleeding, although it may diminish the *vis a tergo* of the blood, will, in many instances, have no effect upon the local action of the arteries, which will go on to act morbidly until death arrests their action; "because you may weaken the impulsive force of the general circulation, without lessening the action of the small arteries." Opium was occasionally given in this case, not only to obviate the irritation of the calomel upon the system, "but to assist by its antispasmodic power;" and Dr. Y. goes on to recommend the combination of calomel and opium, as

one of the most efficient means of arresting inflammation generally, when that morbid condition runs on in spite of repeated bleedings.

1. The next paper is one by Dr. Baillie, in which the writer expresses it as his opinion, that paraplegia has always, more or less, reference to a disordered state of the brain, and that this condition probably extends to both hemispheres. Dr. B. states, that what little success attends remedial treatment in these cases, is obtained from those medicinals which are calculated to take off pressure from the encephalon.

Six short papers, by Dr. Kerckhoffs, a Belgian army Physician, constitute the third article—one on *plica Polonica*, which, he maintains, arises from neglect and uncleanness; the second on mucous phthisis, in which is recommended the powder of the bark of the *salix alba*, with sulphur made into an electuary, with syrup of poppy; and a Dr. Louis speaks highly in the same disease of the *viscum album*. The third communication from this author is constituted by a statement of a case, in which a soldier was poisoned by lead taken into the stomach; he having drank, seduced by its sweet taste, some solution of the acetate which one of his fellow-soldiers had been using as an injection for gonorrhoea. Hospital gangrene is the subject of the fourth paper. “*Infame convictus sum*,” he says, speaking of this affection, “*eam pro causa occasionali habere eadem miasmata quae efficiunt causam remotam febris adynamicae*.” Scabies, we are told in the fifth paper, is best treated by a wash formed of an infusion of *arctica montana*, with muriate of soda; and in the sixth, a solution of carbonate of potash in boiling water is recommended in phlegmonous inflammation as an effectual foment.

Dr. Cholmley, in the fourth paper of the present volume, describes a *lues* constituted by the want of gall bladder in an infant. The child lived five weeks. It died jaundiced and convulsed. A paper of Dr. Carter next follows, in which he deprecates the practice of sending consumptive patients abroad in an advanced stage of the disease; but a change to a warm climate, he says, provided every thing requisite be attended to, “will hardly fail to be of benefit in incipient phthisis.” Dr. Latham, in the sixth article, treats on the medicinal properties of the potatoe plant—“From about seven pounds of the stalks and leaves of the *solanum tuberosum*, Mr. Hume, the well-known chemist of Glasgow, prepared for me nearly a pound of extract, with which I commenced my experiments.” This dose is about three grains. Dr. Latham thinks this narcotic preparation superior to hyoscyamus and scium. Dr. Boswell in the next article alludes to the occasional occurrence of painful affections in the

testinal canal, in which, although not characterized by actual symptoms of inflammation, an adventitious membrane is formed from the villous coat of the bowel, and discharged by stool; the writer thinks that these affections have been confounded with the passage of gall-stones. The most effectual remedies in these cases are constituted of inf. gent. comp. with inf. senna, with an addition of from ten to twenty drops of the liq. potassæ, repeated so as to produce four or more stools in the twenty-four hours. Respecting the eighth paper, which is on the subject of plague, we say at present nothing. The ninth communication is a very interesting one, from Dr. Wilson Philip, on calculus, in which Dr. P. successfully combats Majendie's reveries, in respect to the azotic formation of gravel and stone, and concludes with the following remarks:—"Upon the whole, I cannot help thinking that we have reason to believe that gravel generally originates in a precipitation of lithic acid in the kidneys, in consequence of the greater than usual quantity of another acid, generated chiefly in the *prima vie*, passing by these organs; and that the best plan of prevention is to correct the tendency in the *prima vie* to form this acid; to support, by means which invigorate the powers of the circulation, the action of the skin, by which in health any superabundance of acid is thrown off; and when we find that, notwithstanding such measures, too much acid still passes by the kidneys, to correct it by antacids before it enters the circulating fluids."

The nature of the process called the spontaneous evolution of the fetus, is discussed by Dr. Gooch in the tenth paper; and he gives the following particulars of a case in point which occurred to him:—"The first thing I observed was, that not only the arm was out its whole length, but that the shoulder had turned forward under the arch of the pubis, like the occiput just before the head is born. The next thing I observed was, that when a pain came on, which was very strong, the side of the thorax pressed down with great force against the perineum. Struck by these appearances, I abstained from turning, and sat down by the bed-side, fully expecting what actually took place, the spontaneous expulsion. Resolved to know what became of the arm, if this should happen, and thus fit myself for a witness on this disputed point, I laid hold of it with a napkin, and watched its movements so far from going up into the uterus when a pain came on, it advanced, as well as the shoulder, still forward under the arch of the pubis, the side of the thorax pressing more on the perineum; and appearing still more externally, it advanced so rapidly, that in two pains, with a good deal of spasmodic exertion on the part of the patient,

But apparently with less suffering than attends the birth of the head in a common first labour, did the side of the chest, of the abdomen, and of the breech, pass one after the other in an enormous sweep over the perinæum, till the nates and legs were completely expelled. The head and the other arms were still to be extricated; but this was effected with the greatest ease; the child was dead; the mother had not felt it move since the day before at noon."

This case seems favourable to the assumption of Dr. Douglas, respecting the process employed by nature to remedy the untoward cases in question: but Dr. Gooch very properly cautions his readers not to form inferences against turning in arm presentations, from the circumstance that nature does sometimes operate this kind of delivery, without the necessity of the protruding arm and shoulder being returned into the uterus. "If the arm and shoulder protrude far, the pains are strong, and the thorax presses hard upon the perinæum, it will be right to wait and watch for a little time; beyond this, whoever suffers a knowledge of this rare fact to discourage him from turning in arm presentations, would be guilty, I think, of criminal irresolution."

The eleventh paper is by Dr. Latham, and entitled, "On the employment of Venesection in cases of sudden seizures, commonly called fits." This is, in our opinion, an exceedingly judicious condemnation of that practice, which is founded upon the notion that sentient disorder is, in all cases, caused by vascular fulness, and always to be remedied by immediate and direct depletion. Let it also be recollected, that sudden apoplexy, even supervening upon depression of the brain, caused by congestion, "may sometimes arise from the slowness of the stream, and from the weakness of the impelling force;" and let the Practitioner be wary with regard to very copious venesection, "should the subject be emaciated, and the muscles flabby,"—"flaccidity of muscles, which depends upon the manition of vessels that nourish them, being a better criterion of the actual state of the vascular system than the pulsation of the artery."

Let such as are partial to interesting pathology, clothed in commanding and elegant language, peruse the twelfth paper in the Transactions, which is on puerperal insanity. Dr. Gooch combats, in this essay, what may be deemed metaphysical and moral principles, on the production of mental alienation as opposed to physical and material notions of the disorder's establishment. That intellectual derangement must necessarily be constituted by some change in the corporeal organization, would appear, one should imagine, sufficiently plain to all who think correctly on the subject of

mind and matter; but the great difficulties in reference to these particulars, are, first, to ascertain the precise point at which a disposition to aberrate from the right line of feeling and conduct ceases to be under the control of the will; and, secondly, to account for the overthrow of the understanding by mental and moral impulses, without any change but in a consentaneous or consecutive way of the organic fabric. Dr. Gooch seems desirous of drawing a demarking line between eccentricity and insanity; but surely a mere waywardness of temper is as much constituted by physical states, as is actual madness. Allow to the organist the correctness of his assumption, that every thing results from organization, and you, by that admission, open a wide door for the easy admission of what is called materialism and necessity; but then, on the other hand, if you affirm that some mental manifestations depend upon organic states, and others arise from a particularly constructed mind, how are you to predicate with precision, whether temper merely, or actual disease, be the cause of the irregular display of thought and feeling; and from what point is condemnation for immorality to cease, and pity for sickness to commence? We wish we could find room for the very interesting case narrated in this paper, which, by the way, affords proof of what moral management can occasionally effect when the demon of disorder shall have laughed to scorn all physical attempts to dislodge him from his strong hold upon the body. Let us be allowed to embrace the present occasion of intimating, that while able writers are well employed in combating the absurdities of metaphysical pathology, it behoves them to be careful of inserting among the items of their doctrine, any thing from which inferences may be legitimately drawn against the great concerns of conscience and morality.

The thirteenth essay is from the pen of Dr. Yeats, on duodenal diseases. We have often thought and said, that hepatic and "digestive organs" principles have a tendency to lead the mind into vague and indiscriminate notions on the subject of morbid conditions. The paper in question is calculated to prevent that indolent satisfaction, in reference to the rationale of disturbed function to which we allude. Duodenal diseases, Dr. Yeats thinks, have often been erroneously thought to be, and treated as, affections of the liver; and this mistake is partly ascribable to the circumstance, that a suffusion of bile is often the characteristic as well of the one as the other.

If it is a matter," says Dr. Y., "of more than medical curiosity, to form a discrimination between a liver disease on

one hand, and a simple dyspeptic state of the stomach on the other, as contradistinguished from a morbid state of the duodenum simply. In some cases, where the duodenal disease has existed for some time, the diagnosis becomes almost impossible, although an experienced Practitioner may form a very good opinion; because a morbid train of symptoms takes place, by which liver, duodenum, and stomach, are blended in one affection, emphatically termed a disease of the digestive organs. In a simple disease of the stomach, we have very little swelling or puffiness in the epigastric region; and when it does take place, it is more to the left side. We have also eructations of wind and of acrid matters. These circumstances vary very considerably in a diseased duodenum; a swelling is very apt to occur, the extricated gas finding a greater difficulty to escape, either by regurgitation through the pyloric orifice, or downwards, *from the particular situation of the intestine at the mesenteric ring.* There are, therefore, no eructations of wind or of acid matters in a dyspeptic state of the duodenum; and when the puffiness is detected, it is a diffused swelling towards the right hypochondrium, being lost under the liver, and not extending to the left side, and circumscribed in that direction."

With respect to the further diagnosis between affections of the duodenum and the liver, this Dr. Yeats admits to be more difficult, on account of the latter being so readily affected by a disease of the former, "particularly when a slight jaundice has taken place, not from a diseased liver, but from the bile not finding a ready passage into the ill-conditioned duodenum; an experienced Physician must then form his opinion from the accumulation of symptoms, and from his recollection of similar cases. If the symptoms of a liver disease, particularly the yellowness of the eyes, tension of the side, and lateritious sediment of the urine, speedily disappear by the treatment, we may be perfectly satisfied that these hepatic symptoms are produced by duodenal irritation, and that the patient may be safely tranquillized on that ground by his anxious Physician: if, on the contrary, these symptoms are obstinate, and they seldom are, without having so much disordered the several systems as to awaken very early the suspicions of the Physician, then that science and accumulation of facts which taught him the discrimination, will immediately suggest to him the more active and appropriate remedies for the liver disease, according to its kind and degree. With respect to the green urine mentioned by Dr. Ferriar, I have never witnessed it. I am not disposed

to consider it as diagnostic; and probably it may be an accidental tinge of the urine, by the bile which produces the green jaundice."

Dr. Yeats particularly insists on the inefficiency of that practice, which directs a dose or two of calomel, with purgative salts, and subsequently stimulants and tonics, in affections which are consequent upon a depraved or loaded state of the duodenum; and recommends the continued employment of quassia and senna in combination, one scruple of the former, with two scruples, or one dram, rarely the latter, of senna, infused in a pint of boiling water for an hour; and one ounce and a half of the infusion thus prepared, taken in the morning, and repeated at noon, with three grains of the pil. hydrarg. at night, for a fortnight. When the duodenal affection is attended by feverishness, Dr. Yeats is partial to the sulphate of potass in scruple doses, which, he says, is preferable to the sulphate of magnesia. When torpor and coldness prevail, to the quassia and senna infusion may be added half a dram of the sp. ammon. aromat., or one dram of some aromatic tincture; a dram of the vin. aloes, with mixture of the liq. potassæ, constitutes an excellent combination under these circumstances.

Upon the whole, we consider this a very valuable paper, and, together with one before noticed from Dr. Powell, in the same volume, deserving of much attention on the part of the pathologist and Practitioner. We may just take occasion to state, that much interesting intimation, in reference to these points of abdominal and intestinal malady, is to be found in the works of Hoffman; and we have often thought, that some authors of still more modern date than Hoffman have laid claim to the first announcement of particulars respecting digestive disturbances, and their sympathetic influences, which, even if not developed by the old writers, had been particularly noticed by the systematic author just named.

The next essay in the present volume is on the hour-glass contraction of the uterus, by Dr. Douglas; in which the writer maintains, that the neck of the womb has an action independent upon the body and fundus of the organ; and that the retention of the placenta is rarely, if ever, primarily caused by the hour-glass contraction of the uterus, but that the occurrence of this contraction is, for the most part, the result of the undecided manner in which the Practitioner introduces his hand, with the intent to extract a placenta, which had been retained by adhesion and inaction of the uterus. When the hand is introduced, so as to be only just within the cervix uteri, Dr. Douglas observes, that the lower

edge of the thickly muscular part of the uterus is irritated into action, and the contraction in question is thus the result of this irritation; it being here, at the line of demarcation between the body and cervix uteri, that the stricture takes place. "In those few cases," our author concludes, "of unavoidable retention of the placenta, wherein it may be necessary for the accoucheur materially to interfere, he should, having first cautiously inserted it within the vagina, *push his hand briskly up to the very fundus of the uterus.* And, in this operation, he should direct the hand forward towards the umbilicus, ever bearing in recollection, that the axis of the uterus, as well as the axis of the pelvis, inclines, at a considerable angle, to the axis of the trunk of the body."

The present President of the College, Sir Henry Hallford, has a short paper, in the volume before us, on the necessity of caution in prognosis in the last stages of some diseases. "It often happens," he remarks, "at the latter end of some diseases, both of an acute and chronic nature, that appearances present themselves of a very equivocal and delusive nature, with which the issue of the malady does not correspond. This is most frequently the case when the resistance of the constitution against the influence of the disease has been long protracted, or when the struggle, though short, has been very violent. Here a pause in nature, as it were, seems to take place; the disease 'has done its worst,' all strong action has ceased, the frame is fatigued by its efforts to sustain itself, and a general tranquillity pervades the whole system. This condition of comparative ease, the eager wishes of the friends construe into the commencement of recovery, and the more readily so, as the patient himself, being appealed to, confirms their anxious hopes, having lost some of his sufferings, admits, perhaps, that he is better." This "fallacious truce" occasionally takes place in inflammation of the brain; but these apparent, not real amendments, are not preceded by sleep, and are not accompanied by a slower pulse, "two indispensable conditions, on which only a notion of real improvement could be justified." Even in strangulated hernia, when the Surgeon may have appeared to reduce the protruded bowel, and it is hoped that every thing may go on well, "it is an invariable rule with me," says Sir H. Hallford, "to consider life as in jeopardy until the intestines shall have performed their functions again, all irritation having left the stomach, and the skin remaining universally and equally warm." Without much attention, the rigors consequent upon hepatic, or other deep-seated abscess, are taken for common intermittents, and the prognosis of course erroneous. And in regard to hydrothorax, it is important

to recollect, that when the attendant swelling of the legs disappears *without an increased discharge of urine*, the patient generally dies very soon, and most frequently suddenly. In confluent small-pox, the call upon the powers of the system has been, perhaps, so great, that the patient will sometimes die, even when the mialady has appeared to proceed in the last stage in a most satisfactory manner, and the same thing takes place in burns often; so that our prognosis should always be guarded by a reserve. Sir H. lastly alludes to a paralytic state of the kidneys, marked by want of urinary secretion, and in which, though there is little illness apparent to the bystanders, the patient's life is often in imminent hazard.

Mr. Stanley, the well-known demonstrator of anatomy at St. Bartholomew's Hospital, furnishes the last paper in the present volume, by recording a case of death from poison, wherein impregnation had taken place, and the ovum was detained in the ovary. A woman, about thirty years old, took laudanum, and died in consequence. Upon examination, the blood-vessels of the broad uterine ligaments were found increased in number, and much distended, the womb itself rather enlarged, and the decidual appearance visible: in the cervix, a gelatinous matter was found, but not sufficient to close the os-uteri. The Fallopian tubes were large, and remarkably twisted, and their inner membrane folded into floating processes, as if for the purpose of detaining the ovum for some time in its passage through the tubes. "The left ovary was considerably the largest, and, at its posterior part, was a rounded prominence distinct from the general fulness. The coverings of the ovary, in this situation, were loaded with tortuous vessels, and, from careful examination, it was clear that there had not been any aperture in the external membrane. The membrane being divided over the middle of the prominence, a distinct cyst was exposed, and within this cyst was discovered an ovum. The internal surface of the cyst was smooth and polished, its external surface was firmly adherent to the surface of the ovary. The ovum was simply in contact with the cyst in two-thirds of its circumference: in the remaining third, it was united to it so closely as to be inseparable. The chorion and amnios were perfectly distinct, and, by the aid of a magnifying glass, vessels filled with blood were seen ramifying upon the former. The cavity of the amnios was filled by a yellowish honey-like matter, but the foetus could not be discovered. Lastly, it is to be noticed, that around the ovum the ovary was, for some distance, loaded with blood, apparently affused into its substance. The section of the right ovary exposed

numerous vesicles, such as are usually termed ovarian granules, and one large cyst, adequate to contain a horse bean, filled by watery fluid, and having fleshy excrescences growing from its internal surface. The appearance of this large cyst induced the opinion that it was the effect of disease.

In this case, the changes observed in the uterus and the Fallopian tubes were strong presumptions of impregnation; but the appearances in the ovary, in connexion with these changes, amounted almost to absolute demonstration. Was the adhesion here observed between the ovum and the ovary the cause, or the effect of the detention? Mr. Stanley thinks, contrary to the opinion of Sir E. Home, that the latter may possibly be the case in some instances of detained ova; for, in the supposition of the ovum, from any cause, failing at the proper period to burst its way through the ovarian coverings, the natural process would then be, that its outer membrane, or chorion, should acquire an adhesion to the parts with which it is in contact, so that it may, in this way, open a communication with the vessels of the ovary, and derive from them the materials of its growth.

It is now pretty generally admitted, that the corpus luteum is not an evidence of impregnation; but it is still questionable whether the process in virgins extends beyond the rupture of the vesicle, and the production of the body; whether the rudiment of the ovum is formed and escapes, yet remains doubtful. Virgin corpora lutea, are, in general, smaller in size than those which are the consequence of impregnation. Mr. Stanley lastly notices the irregularity that is observed in these processes in respect of time, an examination of several ovaries, at the same period of impregnation, displaying differently sized ova.

We have now finished our analysis of this interesting volume. The reader will perceive, that, as we advanced in the review, our notices of, and extracts from, the several articles, widened out into more extent of detail. This is partly ascribable to the nature of the articles themselves, but more particularly to a circumstance that occurred after the commencement of the analysis. We received an offer from a gentleman, who has but recently returned from Italy, to present our readers with an *exposé* of the new doctrines in medicine which are so much talked of at present in that part of the world. This offer was too good to be refused, although it, in some measure, deranged our intended plan of extending the English review of the present Number far beyond its ordinary limit. Thus curtailed, we found it absolutely impossible even to give a cursory notice of all the

publications intended for remark; and, therefore, were more at liberty to give way to our wishes in reference to that at the time under supervision. We must now, then, content ourselves with barely naming the several treatises intended for comment, still pledging ourselves for speaking more fully on those which deserve the distinction in future Numbers. We shall then employ so much of the space as the printer informs us remains, by presenting as full an analysis as possible of the Transactions of the King's and Queen's College of Ireland.

The following are the books which were intended for more particular notice on the present occasion:—Mr. Travers and Dr. Vetch on Diseases of the Eye; which, together with the recently translated work from the German on the same subject, we propose to review largely in the next Number. Ramsbotham's Practical Observations on Midwifery; a work which, as far as we can judge from the inspection we have given, is highly worthy the attention of the obstetric Practitioner and pupil, and which shall be very shortly analysed. Illustrations of the capital Operations of Surgery, by Charles Bell; and Lewis's Views of the Muscles of the Human Body; both worthy the attention and possession of the Surgeon and Anatomist; the engravings, however, of the latter, being rather of inferior character, and destitute of full anatomical expression. Wilson's Lectures on the Structure and Physiology of Parts composing the Skeleton, and on the Diseases of Bones and Joints; a book which ought to be in the hands of every Student. Mr. Brodie's Introductory Lecture; and Mr. Carlisle's Hunterian Oration; neither of which requires any recommendation from us to make it read and highly appreciated. The Transactions of the Medico-Chirurgical Society, vol. xi. part 1. These volumes always contain some exceedingly interesting papers; but they have lately been somewhat less interesting, and more common-place, than at their first appearance. Elliotson and Granville on the Hydrocyanic Acid; both works which ought to have been reviewed in the *REPOSITORY* long ere now, but which shall very shortly appear before our critical bar, to be judged of impartially, according to their respective merits. Collier's Translation of the Pharmacopœia; which, as a faithful transcript of the original, may be safely put into the hands of every one who requires the aid which it promises. Tweed on Regimen and Diet. Woodforde on Dyspepsia, Indigestion, &c.; and Scudamore on Mineral Waters. The above we believe to be a pretty accurate catalogue of the publications which issued from the press between the last of June and December in the

preceding year : should we have been guilty of any omissions, we shall readily stand corrected by the respected authors aggrieved. With respect to chemical retrospect, the gentleman who is employed to furnish this, reports, that too little has lately occurred of chemical discovery, that can at all be considered as in any way connected with medicine, to be worth a formal notification at present. We now, therefore, proceed to a general review of all that portion of the Transactions of the King's and Queen's College of Physicians that is unconnected with fever: to the papers bearing on this subject we have already had occasion to advert; and, in our forthcoming article on contagion, &c., we may probably have occasion to revert to them.

*Case of Hemorrhage, supposed to be from the Spleen, in consequence of Injury done to that Organ. By Dr. William Harrison.*

There does not happen to be any thing very remarkable in this case. The hæmorrhage yielded, in the first instance, to common measures; when it returned, twelve ounces of blood were taken from the arm, the patient fainted, but afterwards gradually recovered. The recorder of the case states, that "it is not easy to determine, with any degree of certainty, whether the blood made its way in such quantity from the vasa brevia into the stomach, or that an enlargement of the vessels connected to the intestines followed, and that this very large evacuation of blood took place, which afterwards became increased by a flow from the surface of the alimentary canal holding in suspension feculent matter."

*Cases of Eruptive Diseases. By Dr. Robinson.*

These are cases contrasting the severity of variola in the instances in which it occurred, the constitution not having been previously guarded either by variolous or vaccine inoculation, with those which had been secured by vaccination. The cases are four in number: two had been vaccinated, and two not. "In the former, the fever was only of three days' duration; in the latter, it was thirteen. In the former, crustation commenced on the seventh day from the first attack; in the latter, not till about the fourteenth. The former are not pitted; the latter are pitted." Of thirty remaining children in the school where these occurrences took place, eighteen had been vaccinated from six to sixteen years previously; nine had had the natural small-pox; and three had been inoculated with that disease. All these were inoculated with small-pox matter taken from one of the severe cases, "and the result was the same, in all, in the eruptive

disease, was produced: no affection, either constitutional or local, except a small sore, with some degree of inflammation on the punctured part, which, however, did not give any trouble, and disappeared in a few days. This experiment (Dr. Robinson remarks) is decisive in favour of vaccination."

*Case of Idiopathic Emphysema.* By Dr. Ireland,

This appeared to have been produced by a rupture of an air vesicle of the lungs, from a violent fit of coughing, which, diffusing itself through the cellular substance, afterwards occupied the space between the two layers of the mediastinum; "from thence meeting with no obstruction, the tumour appeared above the clavicles," and extended to the neck, face, and scalp. On the 5th day of the emphysema, the child died, having experienced great distress in breathing. No puncture was permitted by the parent.

*"On Affections of the Cranial Brain.* By Dr. Whitlock Nicholl,

We have before alluded to the opinion of Dr. N., that there is a certain morbid condition of the brain, which, although marked by a species of excitement, is, nevertheless, different from inflammation. He calls this an erethismal affection; and we believe that the distinctions pointed out between it and congestion, or inflammation, to be one of considerable moment. There are two species of it: the sensitive and torpid: the one marked by animation, and quickness, and irritability, above the grade of health; the other characterized by an indisposition to move, pallor and chilliness, moans, and occasional shrieks. Now, although in these cases it is necessary to be upon the watch with regard to the probability of inflammation supervening, it is of the utmost consequence that detractions of blood be not indiscriminately made, under the notion of lessening the excitement; and very often, properly proportioned doses of the pulv. ipec. comp. may save the patient, when either depletory measures on the hand, or stimulation on the other, would have proved not only destructive of their own design, but perhaps also destructive to life. Dr. Nicholl gives a case in point, in which, although blood was taken "rather in compliance with rules, than from a conviction that it was indicated;" the disorder rather increased from the evacuation; and a scruple of pulv. ipecac. comp. (the subject was an adult) was ordered every night at bed-time, and in the day-time, antimonial powder, with purgatives and diuretics; under which the patient soon improved, and eventually recovered.

*Case of Amputation of the Hip-Joint for the removal of an Osteo Sarcomatous Tumour.* By Mr. Carmichael.

This was an unsuccessful case, although the operation was very dexterously and rapidly performed; the want of success being attributable to the nature of the disease, it being the fungus exostosis of Mr. A. Cooper; a disease closely allied to the cancer.

*A Case of Cynanche Laryngea, in which the Operation of Tracheotomy was performed with success; and a Case of Abscess between the Esophagus and Cervical Vertebra, obstructing Depletion and Respiration, in which the same Operation was unsuccessful.* By M. Carmichael.

In the first of these cases, the opening was made into the trachea in that space which intervenes between the inferior edge of the thyroid gland, and the superior extremity of the sternum. "The edges of the external wound were kept separated by tin retractors, covered by adhesive plaster, which were cemented to each other by two strings tied behind the neck." "A canula had been introduced into the aperture in the trachea; but the excessive irritation it occasioned, rendered its immediate removal necessary." "On the 15th, the edges of the external wound had considerably contracted, and part of it appeared filled up by the deposition of coagulable lymph. There was still sufficient space for the free ingress and egress of air; but respiration seemed now to be principally performed through the larynx. The patient could lie in any position with the greatest ease, and when sleeping; she could bear the bed-clothes to be drawn up about her throat without inconvenience. The excretion of mucus through the artificial aperture, as well as through the mouth, had in a great degree subsided. From this period, her amendment was progressive and decided; for, on the 19th, it was noted that the passage of air, as well as of mucus, through the artificial opening, had entirely ceased; and the external wound, which was rapidly contracting, was perfectly healed on the 29d. She was, however, retained in the hospital until the 31st, in order that she might recruit her strength, on which day she was discharged well."

The second case was not fortunate in its result: the patient died; and, upon inspecting the parts, "an abscess, containing about six ounces of purulent matter was discovered, extending from the second or third cervical vertebra, as low as the sixth or seventh, situated between the bodies of the vertebræ and the posterior boundary of the cesophagus." The patient vomited matter, just previous to death, which had made its way through a small opening opposite the upper

portion of the larynx. "The practical lesson (says the narrator) we derive from this case, is of the highest importance; for if I could have been aware of the existence of the abscess, a single puncture into it would, in all probability, have saved the patient's life." "Such cases may be indicated by the precise seat of the pain; the obstruction, in the first instance, to the passage of aliment; afterwards, as the swelling increases, to the passage of air; the slower progress of the symptoms, compared to those of laryngitis; and the more rapid, when compared to those of stricture in the œsophagus; the obstruction to the passage of an instrument down the œsophagus, while those complaints about the fauces, which might occasion obstruction, are absent; a general swelling of the anterior part of the neck, almost approaching œdema, analogous to what occurs on the surface over any deep-seated abscess; and, possibly, the accession of irregular shiverings, although it was not remarked that this symptom occurred in either of the cases detailed." We consider the above paper a very valuable one.

*Case of Gangrene, occasioned by the use of Mercury.* By Dr. Grattan.

Dr. Grattan conceived in this case that there was sufficient indication of an hydrocephalic state, to justify the use of mercury, which medicine succeeded in removing the disorder of the encephalon. "In the course of six days, twenty grains of calomel were taken; the mouth became affected, and, immediately the patient appeared free from the disease." But a small vesicle was subsequently observed near the left angle of the mouth, which eventually became gangrenous, and extended itself until a part of the cheek, about two inches in breadth, was eaten away. Death occurred on the eighth day from that on which the local affection first made its appearance. It is possible, that the untoward event was the consequence of the mercurial course; but it is more than probable, that such event depended in the way of predisposition—upon a peculiarity of constitution, and that the original disease would not have given way, had it not been to make room, as it were, for the fatal consequence. Sloughing and death occasionally follow the employment of blisters; but we have not much *a priori* knowledge respecting in what cases such results are likely to happen.

*A well marked Case of Liver Cough; with some Cases and Observations, tending to show how frequently the Lungs and other Viscera sympathize with Derangements in the Liver, whether organic or functional.* By Dr. Brooke.

This case is remarkable from the frequent occurrence of the

disorder in particular situations; the patients being relieved by change of residence. Dr. Brooke conceives that the Practitioners under whose care the subject of the disorder had previously been, considered the complaint to be pulmonary. It yielded at length to mercury, in combination with antimonials and expectorants. "About the 1st of March, the mother of the patient perceived a difference in the cough; it seemed gradually to lose its regularity, was less harsh and distressing, and the paroxysms less frequent; the tumour on the region of the liver had subsided, and the part only felt tender when pressed upon with the fingers. By the 9th his mouth was sore, with very fetid breath; the tongue was deeply coloured with a yellowish brown fur; he complained of headach, thirst, nausea, and uneasiness in his bowels, which had been confined for two preceding days; he coughed but seldom, and only one or two *barks*, as he called them, at a time. I omitted the mercury, and ordered some infusion of senna, with *manna*, *sulphas kali* (potassæ) and *tinct. jalapæ*. The quantity of *fæces* brought away by this purgative was truly surprising, and so peculiarly offensive, that they could not be kept in the house a minute. The tongue immediately became bright, and from that day he has never coughed once; a few tepid baths enabled him to return home, where he remained until after Easter; since then he has been at his school, enjoying the most perfect health and spirits up to the present moment, Sept. 4."

Dr. Brooke goes on to say, that mere functional disorder of the liver is very apt to simulate pulmonary affection, as well as when the structure of the viscus becomes more decidedly deranged; and, after citing several cases, and referring to several authorities in illustration of this fact, he concludes his paper with the following words:—

"From the above recited cases and authorities, we can no longer hesitate to allow the existence of a distinct liver cough, and also that the lungs do now and then seriously participate in a diseased liver, and in such a deceptive way, as to mislead the Practitioner, and induce him to adopt a very erroneous and ineffectual practice. A repetition of such mistakes must naturally be expected, until a further investigation of the subject, and more accurate observation, enable us to lay down a precise diagnosis, a desideratum, which, I trust, the present active spirit of inquiry will speedily supply; in the mean time, it may assist the Practitioner to recollect, that in the simulated disease, the cough is uniform, harsh, unaccompanied with pain in the chest, and in general is dry, and then without difficulty of breathing, or dislike to the recumbent posture. When there is any expectoration, the mucus is

rejected is scanty and viscid, and never, I believe, tinged with blood. This cough does not fatigue the patient as might be expected; and is chiefly troublesome during the day, particularly after meals: and I never knew it to occur during sleep. In phthisis, on the contrary, the cough is more uniform through the entire course of the disease—it comes on with the fever, and, strictly following its course, changes in each stage of each paroxysm. In the cold fit it is dry, short, obstinate, troublesome, and fatiguing, with manifest increase towards the night; in the second stage, it is diminished, and less frequent; and in the third, when the sweat breaks out towards morning, it becomes soft, and is accompanied by a free, and often copious expectoration. It is well known how easily the phthisical cough is provoked;—a momentary exposure to cold; a change in the wind; a slight exertion in the voice; a sudden shake of the body; a little smoke in the room; nourishment a little more stimulating than ordinary, will excite the cough, and keep it troublesome for hours; but which certainly is not the case with the liver cough I have seen. We are also told, when the seat of the cough is in the lungs, the cough occurs during, or appears to be induced by the inspiration; but, that when the cough is sympathetic, and arises from derangement in the stomach, liver, intestines, bladder or kidney, or from worms, or pregnancy, the cough occurs in the expiration.”

*A Case of Erethismal State of the Brain.* By Dr. Whitlock Nicholl.

We have more than once adverted to Dr. R.'s suggestion, respecting a species of excitement which is not necessarily vascular, although for the most part viewed and treated as such. This is a state, says Dr. N., often overlooked at its commencement; confounded with inflammation, or with remittent fever in its advanced stage: and the torpor which succeeds to it, and which, after a time, disappears, and is succeeded by a recurrence of the former symptoms, which again tend to torpor: this is considered as the effect of increased exhalation, to which, after a time, the brain *accommodates* itself, (to use a common medical phrase), until a fresh effusion causes a renewal of the symptoms; whereas, in many of these cases, no increased effusion has occurred. Erethism is a state (continues Dr. N.) not confined to the cranial brain; but it also occurs in the spinal brain; so do also all the other states, which were enumerated in a former paper.” In confirmation of Dr. N.'s principles, we may advert to the circumstance, that after the existence of what had been supposed, from symptoms, to be hydrocephalus, dissection often fails of dis-

playing those structural conditions, which are the necessary accompaniments of actual hydrocephalus; and, in these cases, it is more than probable that state of brain had all along been present, which our present author designates by the term *erethism*. We have ourselves, too, often observed how very kindly and beneficial the action of the *pulv. ipecac. compo.* occasionally proves in these circumstances—a medicine to which Dr. N. seems exceedingly partial for the affection under remark.

*A Case of Mitana.* By Dr. W. Nicholl.

This is an instance of the malady successfully treated by the *oleum terebinthinæ*—a remedy first suggested in these disorders by Dr. Brooke. The subject was a female, between thirty and forty, who, after having had phthisical symptoms for some time, was attacked with vomiting and diarrhoea, but she appeared to be going on well for some days under treatment by *hyd. cum creta*, small doses, *pf. confect. opii, &c.*, “when, on the 29th of June, a most unaccountable state of agitation and terror took possession of her mind, attended with most profuse perspirations;” the tongue was dry, thirst urgent, pulse almost countless, with other malignant symptoms. In the evening of the next day, she passed two large evacuations of liquid bile, with a considerable quantity of blood, the abdomen being very full; but not painful upon pressure. On the 1st of July, she passed inky black stools, entirely inodorous, and free from even a vestige of faecal matter. She was ordered the following draught:—

R *Ol. Terebinth.* 3ss.  
*Syr. Papav. Alb.* ʒi.  
*Aquæ Menthae Virid.* ʒi.

Immediately afterwards, the following clyster was injected carefully, and with some force:—

R *Ol. Terebinth.* ʒi.  
*Mucilag. Acaciae,* ʒiss.  
*Decoct. Avenæ,* ʒxij.

The injection came away, after being retained in the bowels one hour; it was free from all tinge, either of red or black. The draught was repeated at noon; and, at three in the afternoon, the enema was repeated, which again returned, after half an hour's detention, uncoloured. At four, the draught was again given, and two more were administered in the course of the night. The next day, no more discoloured stools had passed: twenty drops of the *ol. terebinth.* were now prescribed every four hours; and five grains of *pilula hydrag.*

were ordered at night. Four drops of the black drop were added to each draught. The next day the patient was much amended in every respect, the turpentine was discontinued, and she gradually regained her former health. The turpentine appears to us to be a highly valuable medicine in several intestinal and abdominal cases, and possessed of a virtue beyond what can well be ascribed merely to its stimulating agency. "Not a particle of discoloured matter," says Dr. N., "passed from the intestines from the moment in which the turpentine was first injected; although, up to that moment, the fluid *nigricantis piceæ coloris*, and *tetri atræ coloris*, as Hoffman terms it, passed away almost continually."

*A Case of Ruptured Vagina, which terminated favourably, notwithstanding the Strangulation and subsequent Sloughing of a considerable portion of the Intestinal Canal.* By Dr. M'Keener.

In this case, the cranium of the child had been perforated in consequence of deformed pelvis, and the patient, after a good deal of suffering, appeared to be going on very well; but in the morning, "while one of her attendants was engaged in adjusting her bed, she observed a substance, about six inches in length, and of a smooth shining appearance, hang from the external passages; but, supposing that it was merely a portion of the membranes which had remained after the removal of the placenta, she contented herself with passing a portion of rag through the loop which it had formed in its descent, hoping that, in a few hours, the efforts of nature would be sufficient for its removal." Her bowels continued obstinately costive. On the third day, one of the attendants made an effort to remove this, as was thought, portion of membrane, but the act of pulling with force caused so much pain, that she was obliged to desist." From this moment, a train of the most formidable symptoms set in; her abdomen swelled up, and became excessively painful; she had incessant vomiting, with occasional hiccup, and she complained much of pain, which she described of a dragging lacerating kind, in both iliac regions. When Dr. M'Keener was called in, the belly was much swollen, the bowels were still costive, the pulse was small, intermitting, and tremulous, and there was every appearance of speedy dissolution. "On raising the bed-clothes," says Dr. M'K., "for the purpose of examining the precise state of matters, I found, in place of the alleged portion of membrane, nearly a yard and a half of the bowels coiled up under her, black, and to all appearance putrid; exhaling a shockingly offensive odour. The cylinder of the intestine was in many parts so

incomplete, that the finger could be freely passed up and down through the rents." In five days from the first appearance of the protrusion, the mortified portion of the intestine, measuring three feet and eleven inches, came away, and the deadly symptoms decreased; about an hour after the separation, there was a copious discharge of *foeces per vaginam*, being the first alvine evacuation she had had since delivery. After some days she complained of involuntary discharge of urine; the T bandage was ordered, with a large soft sponge to the external parts, for the purpose of absorbing the discharges. In about a month's time, the father of the patient came to Dr. M'K., to say his daughter "had passed a very bad night, in consequence of excruciating pains of her belly, and that another portion of her bowels (as he was given to understand) had made its appearance." When, however, she was visited late in the afternoon, "all alarming symptoms had subsided, and it was found that a piece of membrane, thickly studded with sandy matter, about nine inches in length, and four in breadth, had come away. After this became detached, she got immediate relief, and she has since continued as free from ailment as can well be expected, considering the loathsome and afflicting infirmities under which she labours."

*A Case of Diseased Heart in a Patient who had suffered severely from acute Rheumatism.* By Dr. Falloon.

The subject was about forty-three years of age. He had suffered, although generally healthy, from two severe attacks of rheumatism, in the last of which he was jaundiced. His present symptoms were an incapability of bearing the recumbent posture, from the violent beating of the heart, and a feeling of impending suffocation. He was universally dropsical; much harassed with cough, "breathing oppressed, but the inspirations could be made deep, appetite not very bad, but always worse after eating; bowels kept open by purgative pills; urine very scanty and high coloured." Bleeding was ordered to the amount of twelve ounces, for four successive days symptoms all relieved. Calomel, dried squills, digitalis, and opium, served him very essentially. Various symptoms and feelings would appear from time to time, the most constant of which were, the "croaking noise," his drink when swallowed would appear to make a noise as if "falling into an empty jar," buzzing in his head, and ringing in his ears. When these last symptoms would not yield to the ordinary means, I controlled them from time to time by blood-letting, always conducted in the same cautious way, and from a small orifice. "For months he was kept under

the constant and daily use of such purgatives as would promote watery discharges, changing them for, or assisting them with others of the opposite class, as occasion might require; the constant use of diuretics was no less necessary, of which he used a great variety; among these the acet. kali, and tinct. digitalis were very generally found useful. The diet always such as might be supposed the least likely to generate blood." At times the occurrence of a profuse epistaxis anticipated the necessity of the lancet. Blistering and a seton seemed to add to the prevailing irritation. The man died. Upon inspecting the thorax, adhesions were found between the enveloping membranes and thoracic viscera. The heart was about three times its natural size, and all the great vessels were very much dilated, but not thinner than natural. The valves were all sound except one of the aortal, which was much elongated, thickened, and beset with excrescences. The heart weighed thirty-four ounces. On the surface of the pericardium traces of sub-acute inflammation were observable. The liver was smaller than natural, and spleen somewhat larger.

The reporter of the cases seems to imagine, that had the first showings of the cardiac malady been met by repeated bleedings, the progress of disorganization might have been arrested, and "perhaps a valuable life been longer spared." To our judgment this position seems somewhat questionable. At any rate it does not appear to us that the blood-lettings which were instituted after the establishment of the disorder served to retard the fatal event. Chronic affections, tending towards altered structure, are, we fear, much less under the control of medicinal agency than the pride of medicine and our own wishes would lead us to expect; and when preventive measures are useful in warding off, for a time, the approaches of death, we are disposed to think that the good is principally to be effected by, so to say, negative, rather than positive measures, by guarding against sources of irritation, rather than by pouring out the patient's blood, which confessedly does good for a time, but eventually, we verily believe, operates the contrary result. In our minds very large and repeated blood-lettings should be confined to the exigencies of acute diseases: this, however, is all matter of opinion.

*A Case of Recovery from the Effects of Corrosive Sublimate.*

By Dr. Lendrick.

An emetic was first administered, but from this no relief was obtained: the effects of albumen were therefore tried, "the whites of several eggs were beaten up with an equal

quantity of water, and directed to be taken in as large quantities as the stomach could bear without painful distension." The alarming symptoms soon abated, and with the assistance of the castor oil, together with the use of fomentations, the recovery became progressive. "Symptoms, however, resembling peritonitis, occurred over each tibia about the tenth day, and it was proposed to make an incision: as, however, he was now sufficiently recovered to attend to his ordinary avocation, this intention was relinquished, and the use of the warm bath proved sufficiently effectual. A slight degree of paralysis of the right side, with nervous irritability in other respects, attended with some loss of memory, supervened, and from those complaints he is not yet free." The quantity of sublimate swallowed was ascertained to have exceeded half a dram.

It is not necessary to add any thing in the way of concluding eulogium to the above Review of the Transactions of the King's and Queen's College of Physicians in Ireland. The papers, our readers will have observed, are many of them of the most instructive kind; and if the interest of these volumes is kept up in any way equivalent to the specimens already before the public, the series will constitute, both for present reading and for future reference, a body of exceedingly valuable matter. A more careful supervision of the press is, however, still needed; although neither the faults in composition, nor the errors in typography, are nearly so numerous as in the preceding parts.

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### PART III.

### SELECTIONS.

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*Observations on the Effect of dividing the Eighth Pair of Nerves—communicated in a Letter to the Editor of the Quarterly Journal of the Royal Institution, by CHARLES HASTINGS, M.D., Physician to the Worcester Infirmary, &c.*  
*[From the Quarterly Journal of Science, Literature, and the Arts.]*

[Continued from p. 420.]

#### Experiment.

A rabbit was kept, without food, for several hours, and then ate very heartily of cabbage leaves. For twelve hours afterwards it was not allowed to take any food, and was then killed.

The contents of the cardiac portion of the stomach were quite pulpy, and contained many round balls. There was nothing at all like cabbage: the whole appeared entirely digested. The food in the pyloric portion was much drier. The duodenum was nearly empty, but contained some little chyme and bile. The gall-bladder was distended. There was no chyle in the lacteals.

#### Experiment 2.

After a fast of eighteen hours, a full-grown rabbit was killed. On opening the stomach, the contents of its cardiac portion were found in a semi-fluid state. There were many round balls. The food contained in the pyloric portion was much drier, and rather more digested. There was no chyme in the duodenum. The gall-bladder was distended. The lacteals were empty.

#### Experiment 3.

I gave a dog six ounces and a half of raw mutton, and in four hours and a half afterwards had him killed.

When the stomach was opened, three ounces and seven grams of a thick fluid, somewhat like strong broth, were found in it. There was also some mucus, and a small quantity of yellow matter, resembling bile, adhering to the pylorus. The thoracic duct, and the lacteal vessels, near the duodenum, were distended with chyle. The gall-bladder was not distended.

#### Experiment 4.

I killed a dog three hours after having given him seven ounces of raw mutton.

The stomach was not much distended. Near the pylorus was a yellow matter resembling bile. There was a mass of meat in the stomach considerably changed in its appearance; and some thick fluid, not unlike broth, which, altogether, weighed four ounces. The duodenum was rather full. The lacteals in the middle of the mesentery carried some chyle. The gall-bladder was rather flaccid.

A few experiments, showing that no changes in the food at all similar to those above detailed, ever take place after the eighth pair of nerves are divided in the neck, may now be laid before the reader.

#### Experiment 5.

I took two rabbits, of the same age and size, and kept them without food for several hours. I then allowed them to eat some cabbage, taking care to give each the same quantity. Immediately afterwards, I cut out a portion of the nerve of the eighth pair, on each side of the neck

of one of them. The breathing soon became affected. I gave each of them some parsley an hour after the nerves were divided. Soon afterwards, the animal which had been operated on made ineffectual efforts to vomit. The breathing soon became much worse; the animal gasped much, and died in eleven hours after the operation. The other rabbit was then killed.

On examining the rabbit in which the nerves were divided, the lungs were found dark in patches, and the bronchia were loaded with mucus. The cesophagus was greatly distended with parsley. The stomach was very large. The cardiac portion of the stomach was very full of a greenish matter, which looked precisely as cabbage does which is contained in the stomach of a rabbit immediately after a meal. On looking over the contents, small portions of cabbage were very evident. Those parts near the surface of the stomach were browner, but were not at all more digested. There was no chyle in the lacteals. The gall-bladder was distended. The contents of the stomach weighed two ounces and half a dram.

The stomach of the rabbit which had not been operated on was much smaller. The contents of the cardiac portion were in a pulpy, semi-fluid state, and there were a number of round balls. No one could have distinguished that what was contained in the stomach had once been cabbage: it had lost all the external characters of vegetable substance. The contents of the pyloric portion were much drier. The duodenum contained some chyme. The gall-bladder was full. No chyle could be seen in the lacteals. The contents of the stomach weighed one ounce and a dram.

### *Experiment 6.*

I fed two rabbits, of the same age and size, with equal quantities of parsley, and immediately afterwards divided, in one of them, the nerve of the eighth pair, on each side of the neck. The rabbit operated on, immediately made a croaking noise in respiration. In about a quarter of an hour after the nerves had been divided, I gave each of them a small quantity of parsley. They both ate; but the rabbit which had been the subject of the experiment, made frequent ineffectual efforts to vomit. The difficulty of breathing became very great immediately afterwards. Each animal was now kept without food. The rabbit survived the division of the nerves eighteen hours. The healthy animal was then killed.

The stomach of the rabbit whose nerves had been divided, appeared large. On opening it, the food did not seem to have undergone any other change than that which would be

effected by mastication, by moisture, and by lying in so high a temperature for such a number of hours. The bits of parsley were quite visible; and the only difference that I could distinguish between what was found in the stomach and chopped parsley was, that the layer of the former, which had been lying next the surface of the stomach, had lost, in some degree, its green colour, having become somewhat brown. The whole of the contents of the stomach were covered with a mucous semi-fluid secretion. The œsophagus was full of parsley. Contents of the stomach weighed two ounces and a half. The bronchia were filled with mucus.

The stomach of the other rabbit appeared smaller. On opening it, the contents of the cardiac portion were pulpy, and completely altered from the state they were in when taken. There was not the least resemblance to parsley remaining to the eye, but a faint smell of parsley was distinguished. The contents of the pyloric portion were much drier, and perfectly digested.

#### *Experiment 7.*

After some hours' fast, I fed a rabbit with parsley, and at half-past three divided the nerve of the eighth pair on the right side of the neck. Very soon afterwards, the animal ate some parsley. No attempts, however, to vomit came on till half-past five. These efforts to vomit were immediately followed by dyspnoea, which had not before been observed. At eight o'clock, the vomiting still continued, at intervals, with some difficulty of breathing. The animal, however, passed the night very comfortably, without vomiting or dyspnoea.

At nine o'clock on the following morning, after eating some parsley, the animal again made efforts to vomit, and the difficulty of breathing followed. Each of these symptoms went off after the rabbit had remained for a short time without food.

At twelve o'clock the animal again ate, but did not make efforts to vomit, and the respiration was not disturbed.

At three o'clock the animal ate a good deal of parsley. It immediately appeared uncomfortable, and in ten minutes afterwards made efforts to vomit, and the breathing became disturbed. Throughout the remainder of the day, the rabbit would not again eat. It appeared uncomfortable, but did not make efforts to vomit, neither was there perceptible difficulty of breathing.

Early on the following morning, it still seemed very ill, and would not eat. A little before twelve o'clock, it took a bit of parsley, and died immediately afterwards, having sur-

vived the operation forty-four hours. The stomach was much larger than usual. It contained some flatus. The food in the stomach did not differ much from the masticated parsley found in the stomach of a rabbit soon after a meal, except that the colour was browner. In some parts, however, partial digestion had taken place. Immediately above the cardia, the oesophagus contained some masticated parsley, but there was none higher up. The contents of the stomach had quite the smell of parsley. The duodenum was filled with food, which had passed from the stomach undigested. The contents of the stomach weighed four ounces.

The trachea and bronchia contained mucus, though not nearly so much as when both nerves are divided; and the membrane lining these tubes was red. The lungs collapsed when the thorax was opened. There were several dark-coloured patches on the lungs.

#### Experiment 8.

I kept a dog without food for forty hours, and then gave him seven ounces of chopped beef. The nerve of the eighth pair was then divided on each side of the neck. Food was offered him soon after the operation, but he refused to eat, and appeared uneasy. In twenty minutes he made ineffectual efforts to vomit. In half an hour he was very restless, and continued so for an hour, when he became quieter, but had a slight tremor. In three hours after the operation, the trembling was much more severe, and the breathing also became distressed. At the end of four hours the animal was killed.

The stomach was found much distended. The food contained in it, which resembled boiled meat, weighed nine ounces. Some mucus was also found. The duodenum also contained some mucus, but no chyme. The gall-bladder was distended.

#### Experiment 9.

I divided the nerve of the eighth pair in a dog, on each side of the neck, after a fast of twenty hours, and immediately afterwards gave it four ounces of meat cut into pieces.

Soon after eating, the animal was restless, and vomited, and the breathing soon became affected. He was killed in three hours after the operation.

The stomach was much distended, and contained a considerable quantity of gas. The mass of meat was not dissolved. The colour of the exterior part was altered, that of the interior scarcely at all so. The contents weighed four ounces and seven drams. There was a quantity of mucus in the stomach. The duodenum contained some mucus and some bile, but no chyme. There was no chyle in the lacteals. The gall-bladder was distended.

From the above experiments it appears; 1. That, during life we have symptoms of great disturbance of the functions of the stomach after the division of the eighth pair of nerves in the neck; for in the rabbits, frequent ineffectual efforts to vomit occurred; and in the dog, (Experiment 9.) part of the contents of the stomach was rejected. 2. That examination after death shows, that digestion does not go on after the eighth pair of nerves have been divided in the neck; for parsley and cabbage remained in the stomachs of rabbits nearly eighteen hours, without any other change than that which had been produced by mastication, and that of becoming rather of a browner colour; whereas, in a healthy rabbit, whose nerves had not been divided, the same substances, in a similar time, were reduced to a pulp, and were in a complete state of chemical decomposition. The stomachs, too, in the animals whose nerves had been divided, were much distended; the contents weighing nearly twice as much as the contents of the healthy stomachs. And in experiment 9, where only one nerve was divided, the food remained in the stomach, nearly unchanged, for forty-four hours.

In the dogs whose nerves were divided, the stomachs were very much distended, and contained a large portion of gas. Moreover, the contents of the stomach, after a fast of four hours, weighed more than the food which had been given at the last meal; whereas, in experiments 5 and 6, in four hours after a meal, the contents of the stomachs were found to weigh little more than half as much as the food which had been last taken. The state of the contents of the stomach was also very different. In the healthy stomach, the food was chemically altered, and had assumed a fluid form; whereas, in experiments 10 and 11, it remained solid. In the healthy stomachs, four hours after a meal, the duodenum was full of chyme; the lacteals were distended with chyle; and the gall-bladder was flaccid; whereas, in the experiments in which the nerves were divided, the duodenum contained no chyme; the lacteals were empty; and the gall-bladder was distended.

These facts, which are afforded by the experiments above detailed, and supported by previous authority, are so diametrically opposite to the conclusion to which Mr. Broughton has come from a similar set of experiments, that an indifferent observer might, at first, smile at the fruitless endeavours of the physiologist to extend the boundaries of his science; and might, if such were the instability of the laws of nature, justly ridicule all attempts to investigate her wayward operations. But nature is ever the same; her laws alter not.

although her interrogators, by mistaking her replies to their inquiries, often give an appearance of inconsistency to them.

Thus, in the case before us, it will, I think, appear, that Mr. Broughton has mistaken, and, consequently, mis-stated the replies to his interrogations. On this subject, however, we shall be enabled to judge more correctly, when the facts related by Mr. Broughton are brought forward, and compared with those of other writers.

(To be concluded in our next Number.)

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## PART IV.

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### FOREIGN MEDICAL SCIENCE AND LITERATURE.

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*Some Account of the Practice and Principles of the New Italian Doctrine; extracted chiefly from the Prime Linea of SYDUS BORSA, and the Protulione of TOMMASINI.*

“Ceterum cum nova hæc doctrina clariore in luce collocari desideret, et multimodis temperari possit, idæ quæ in medium protulimus nequaquam plerumque probatisque cuiquam obtrudere volumus, priusquam us-utilitas fidei astruat, quam tamen speramus ex eorumdem usu et periclitatione secuturum.” — *Institutiones Pathologicae, auctore FRANCISCO ALOYSIO FANZAGO.*

THE work, of which we now propose to give an abstract, was composed by Giacomo Tommasini, Clinical Professor in the University of Bologna, and intended as an introduction to his course of lectures. His object in publishing it was to furnish the medical world in general with an account of the principles of the “new Italian doctrine, which had obtained considerable fame in all parts of Italy, acquired the support and sanction of several of the most celebrated Professors, and served as a basis on which an extensive body of medical men had formed their pathological ideas and regulated their practice. It had, however, in the opinion of our author, been exposed to unjust and unmerited obloquy; its principles had been misrepresented, and their practical consequences either perverted, or carried, by pretenders, to an alarming and unwarrantable extent.

We are, however, fully aware, that works, merely, of a theoretical nature, are not likely, in the present day, to gain general attention. So many theories have arisen within our own recollection, which, after strutting their hour, have been consigned to the tomb of all the Capulets, that we thence

derive an explanation, if not an apology, for the spirit of empiricism that now domineers among us; a spirit, which either holds in contempt all theory whatever, or only condescends to avail itself of the small and partial doctrines, that limit the excursions of many of our modern pathologists. On this account, we have judged it expedient, before entering into a detail of the theory itself, to render some account of the practice to which the doctrine of the contra-stimulists has given rise; hoping its extraordinary and unprecedented hardihood may excite in our readers some curiosity to become acquainted with the speculative opinions on which such a practice may have been grounded. The chief boast, indeed, of the supporters of this doctrine is, its practical importance; that, although its early rudiments may have been formed in the closet, it was matured in camps, hospitals, and the extensive practice of many of the most enlightened Physicians of Italy; and they contend, that a larger experience, or a more ample set of practical experiments, has never before been arrayed in favour of any other doctrine, from the time of Hippocrates to the present day. Let us, however, concede, that all the speculations proposed by Rasori, Borda, and Tommasini, are merely the phantoms and reveries of a visionary imagination; there will still remain for discussion and experiment, the following interesting inquiries. Is there not a class of medicines of themselves capable of curing many inflammatory disorders? of affording a most efficient auxiliary in cases where large bleedings are necessary? and of providing the Physician with a powerful substitute, when he trembles at the farther use of the lancet? Are we not in the daily habit of blending, in our prescriptions, medicines whose modes of action on the human frame are in opposition, and annihilate each other? Leaving the latter question to be decided by future observation, the approaches we have of late years apparently made towards the doctrine of contra-stimulation, by the employment of mercury in iritis, of colchicum in inflammatory affections of the joints, and of Prussic acid in various diseases of the chest, evidently accompanied with increased arterial action, may lead us to hope, that a still more abundant collection of similar remedies is in store; and that the former question, at least, may be answered in the affirmative. Now this is the precise point to which we would solicit the attention of all those Physicians to whose superintendant care our large hospitals are intrusted. Let us, at the same time, warn the private Practitioner from the dangerous ground; else, let him advance with the utmost

circumspection in the free employment of these *heroic* remedies. In their use, under all circumstances, two conditions are absolutely necessary: the first is, that an inflammatory diathesis be most evidently present, and that the dose, small at first, be increased in proportion to the degree of excitement: the second, that the Physician visit his patient, as the custom is in the hospitals of Germany and Italy, twice a day, at least, for here it would be criminal to serve by proxy.

Of the two following tables, the first, containing the doses of some contra-stimulant medicines, as they are usually prescribed by the followers of the Rasorian doctrine, was given us by a Physician who has attended the practice of Borda in the hospital of Pavia. The doses were set down by Dr. Carlo Bellati, one of the Physicians to the hospital, a gentleman of great learning and high character; and who, from his well-regulated habits of philosophising, is little inclined to form extravagant opinions on any subject. From his pathological observations, and the dissections of the ingenious and accurate Pannizza, much light is expected to be thrown on the Pellagra, a peculiar and formidable disease, endemic among the country people in many provinces of Italy. It is understood to be connected with inflammation of the membranes investing the spinal marrow; and the dissections of Pannizza are master-pieces of the art. The following prescription, and it is needless to multiply them, was ordered by Borda for a patient affected with peripneumony.

R Calomel, gr. iij.

Ext. Hyoscam. gr. v.

Kerm. Mineral. gr. iv.

This formed one dose; and eight were taken daily for nine days. The patient recovered.

Tartar Emetic, from half a dram to three drams daily.

Extract of Aconite, from two grains to three ounces daily.

Powder of Digitalis, from two grains to ninety-six grains daily.

Gamboge, from six grains to thirty every three hours.

Cream of Tartar, three ounces a day for a month.

Muriate of Lime, from a dram to half an ounce daily.

Extract of Hyosciamus, from two grains to twenty-four every two hours.

Carbonate of Soda, a dram to an ounce daily.

Carbonate of Ammonia, half an ounce daily.

Ammonia, a dram to two drams daily.

Soda, a dram to three drams daily.

Of Belladonna, the powder of the root is esteemed the strongest preparation; next the powder of the herb; and, lastly, the extract.

A grain of the root may be given every three hours, increasing the dose to a scruple.

Three grains of the herb on to half a dram every three hours.

Six grains of the extract on to two drams every three hours.

The powder of *Nux Vomica*, from a grain to one dram daily.

The tincture of the extract.

The infusion of *digitalis* is considered as less certain in its effects than the powder; many unexpected and alarming symptoms sometimes manifesting themselves during the use of the former; and the powder therefore is more generally ordered.

*A Table of Stimulants and Contra-Stimulants.*—As the stimulants, as well as the contra-stimulants, are supposed to exercise an *elective* action on certain parts of the system, this table, by omitting to point out these several elective actions, is necessarily defective. We have been disappointed in our expectation of receiving the *Materia Medica* arranged according to the method of Borda.

#### *Stimulants.*

Heat, opium, musk, aromonia, alcohol, wine, bear, Peruvian bark, certain aromatics, camphor, red particles of the blood, grief<sup>2</sup>, and the passions in general, animal food; the contagions of miliary fever, small-pox, measles, pemphigus, typhus, petechial fever; the matter of lues, and the poison of hydrophobia; the perspirable matter.

#### *Contra-Stimulants.*

Cold, blood-letting, all metallic preparations<sup>3</sup>, and oxydes; the greater number of bitters, emetics, and drastic purgatives; Prussic acid, and aqua pruni lauro-cerasi, digitalis, hyosciamus, belladonna, aconite, cicuta arnica, *gratiola*, phellandrium, valerian, saffron, serpentaria, coffee, mustard, pepper, horseradish, camomile, contrayerva, blisters<sup>4</sup>, and cantharides; phosphate of lime, cream of tartar, nitre<sup>5</sup>, acids, oxygen<sup>6</sup>, poison of the viper<sup>7</sup>, the gastric juice, the bile, and urine; fear.

It is supposed that the stimulating principle of this drug<sup>1</sup> is distinct from the astringent, the bitter, or the gallic acid; and that the various combinations substituted for it, are, in reality, contra-stimulants.

Previously to a dissection, which we witnessed, of a soldier in the Val de Grace, at Paris, who had long suffered under nostalgia<sup>2</sup>, Broussais observed, that in all similar cases he had constantly found water in the ventricles of the brain; and in this instance a large quantity was also detected.

Dr. Yates, formerly in the service of the East India Company, who died at Rumford, was, I believe, the first who administered calomel<sup>3</sup> in large doses, in complaints of a decided inflammatory character, as pneumonia, &c. In an

account of practical observations, made in the hospital for the poor at Petersburg, it is said, that calomel is given with advantage in inflammations of the stomach and intestines, to the amount of two scruples a day; and that no disagreeable consequences ever follow its use. With regard to the enormous doses of tartar emetic that may be administered in diseases of the sthenic diathesis, we have the additional evidence of the author of the "Remarks on the Contra-Stimulant System of Rasori and Borda." This gentleman was an eye-witness of the experiments made by Rasori, in the hospital of Milan, to determine the degree of contra-stimulation possessed by antimonials in general, and kermes, and tartar emetic in particular. He is an opponent of the doctrine, and, on that account, his observations may perhaps claim a more ready belief. He says, "the usual vehicle was a decoction of barley, for which an infusion of camomile was substituted in the few cases where the vomiting became violent. The smallest dose of tartar emetic was a scruple a day; a medium dose being from a dram and a half to two. In a case of hydrothorax, he prescribed six drams a day for six days, and the patient was cured. It is incomprehensible, he adds, how patients can support such extraordinary and unheard of doses of tartar emetic, with little or no vomiting. In some cases, a severe vomiting certainly did come on; but these were few indeed, in comparison with those who bore with impunity two drams of tartar a day; neither can this phenomenon be attributed to any imperfection in the mode of preparing the medicine; for the other Physicians used the same preparations successfully in small doses, as an emetic. Some may suppose that the tartar, not being well dissolved in the vehicle, sunk to the bottom, and remained there; and this sometimes really happened; but when Rasori repeated his visit, he constantly agitated the mixture; and he has made the patient swallow the deposit in his presence, amounting, in some cases, to a whole dram.

In addition, we can state, that specimens of the calomel and tartar emetic, used in the hospital of Pavia, were brought to England by Dr. Anderson, and found to act in similar doses, exactly as our own preparations of the same medicines.

The following case shows that tartar emetic may be given in an excited state of the system in comparatively large doses, without provoking vomiting. A few years ago, we attended, in company with Mr. Astley Cooper and Mr. Manning, a patient, whom it was proposed to throw into a state of deliquium, for the purpose of facilitating the reduction of a luxated humerus, of long standing. Mr. Cooper was

in hopes that this end might be attained by placing the patient in a hot bath, administering, at the same time, small doses of tartar emetic, so as to produce continual nausea. The gentleman accordingly went into a bath, heated to as high a degree as he could well bear, and about twelve grains of the medicine were exhibited at intervals, within the space of half an hour, without exciting either nausea or vomiting. The dose was considered great, and, other symptoms manifesting themselves, it was not judged prudent to push the medicine farther, for the patient became completely drunk; he lost the use of his limbs, and talked and behaved exactly like a man in a state of intoxication. He was removed from the bath, put to bed, and gradually recovered; but the next morning he was hardly able to recal any of the past transactions.

That this apparently powerful stimulus<sup>4</sup> should be ranked among the contra-stimulants, certainly appears surprising; such, however, is the opinion entertained of its action by Rasori and Borda. A paper on the subject, by Dr. Triberti, may be seen in Brugnatelli's Journal for 1810. Borda, although he is one of the Physicians to the hospital at Pavia, and a professor in the university, is forbidden to detail, during his visit, the principles on which he conducts his practice—a circumstance which, to a stranger, uninformed of the political or other motives leading to such a prohibition, appears unjust, anomalous, and detrimental to the progress of medical science.

The author of the remarks says that he witnessed the exhibition of this medicine<sup>5</sup> to the amount of three ounces in a day; and with regard to nitre, he states, that Borda had instituted a set of valuable and interesting experiments. In a case of sthenic diarrhoea, he gave it to the amount of three ounces in one day; and Mirabelli, on analysing the urine of this patient, evacuated in one day, found in it one ounce and a half of the salt. The same author, under the astonishment he feels at the exhibition of doses so enormous, asks, whether the fact may not be explained by supposing that the vitality of the stomach is blunted, and that it is rendered paralytic. But this supposition cannot apply to the patient cured of hydrothorax, who took six drams of tartar emetic daily.

In the institutions of the *Materia Medica*, by Schmitt, of Vienna, oxygen,<sup>6</sup> is ranked among the substances that debilitate (depotenziren) the system; and he assigns the same place to all bodies in which it predominates.

When a viper-catcher is bitten?, he has immediate recourse to theriaca and wine, generally, they say, with success. The

quantities he can bear of wine, without being intoxicated, are alluded to with astonishment.

Having given this general detail of the division of substances into stimulants and contra-stimulants, we shall, in the next place, extract from the *Primas Lineæ* of Borda, a few observations on some contra-stimulant remedies in particular.

The diathesis which consists in an excess of stimulus, when no inflammatory affection of any viscus is present, is treated more advantageously with contra-stimulants than by blood-letting, particularly when the system is not overloaded with blood. The Physician is warned against an excessive use of the lancet, as it is apt to make the diathesis pass into one of an opposite character, threatening the life of the patient; and he recommends the simultaneous employment of contra-stimulants, which, acting directly on the fibre, prevent the necessity of multiplied bleedings. Much experience is required, and many practical cautions are to be learned, before the Physician can arrive at that degree of knowledge in alternuating and mixing the contra-stimulants with bleeding, which will enable him to proceed with confidence and self-approbation. Among the remedies associated with blood-letting, Borda prefers the aqua pruni lauro-cerasi, and beginning with small doses, increased drop by drop, he has prescribed in diathesis, arrived at the greatest height, one hundred drops every two hours. It acts in the same way as the Prussic acid. Digitalis, as it acts more particularly on the arterial system, rendering the pulse unequal and intermittent, is apt to obscure our knowledge respecting the degree of diathesis remaining in patients exposed to its influence; and for this reason Borda prefers the laurel water.

*Phellandrii aquatici semina*.—These were found serviceable in the first, and early in the second stage of phthisis, but of no avail in the third. The experiments of Borda also justify us in expecting much benefit from this medicine in inflammatory affections of the mucous membrane of the lungs, particularly when these supervene to catarrhs and peripneumonic complaints; but its use in advanced stages of phthisis has been greatly overrated by Hufeland. The dose, at first, is ten grains every two or three hours, increasing it to a dram, or, indeed, to an unlimited quantity. "*Tali via phellandrii semina phthisicis sanitatem compararunt, quorum puriformia sputismata calamitosam ac progredientem phthisim omniauantur.*"

*Valeriana officinalis*.—In placing this drug among the medicines that may be employed on account of their contra-stimulant action in diseases, chronic or acute, attended with

asthenic diathesis, Borda expresses his fears of offending the established opinions of medical men. He praises its use in hemicrania and epilepsy; and having compared its effects on the system experimentally with those of stimulants, he adds, "et revera quando nocuus agrotanti videbatur ejusque indolis et gradus stimulus, valeriana apprimè valebat." He praises its use in febrile diseases attended with a diathesis of excitement; and he requests that Physicians may judge his opinion concerning the contra-stimulant virtues of valerian, not by preconceived notions, but by new experiments.

*Atropa belladonna*. — This medicine may be given in those cases of asthenic diathesis which do not yield to the weaker powers of valerian, and in prosopalgia, or tic douloureux, it has been found serviceable. But in pertussis, Borda dwells with pleasure on the advantages he has reaped from the leaves and root of this plant. Children, to all appearance, past all human assistance, have been snatched from death by means of belladonna. At first, one-fourth of a grain is to be prescribed, to be augmented to half a grain, and advanced to two grains, according to the age of the patient, and repeated every three or four hours. Respecting its use in hydrophobia, he says, "Nec absum à præconio radicis hujusce stirpis, ut medicina prophylactica, in canum rabiem efferatorum, aliorumve animalium morsu; hæc enim in re expertus loquor, et jure commendo efficaciam ejus; namque plures eadem à me medicati ita convaluerunt, ut nullum apparuerit in iis signum exacti morbi, vel curationis non absolutæ. Resistit igitur rabie venenatis hæc herba, ejusque vim ita contrastimulantem adjudico, ut systema, usu suo, obnoxium nil prorsus evadat veneni rabidi stimulum perceptioni, ac proinde addito tempore ita dispellatur, ut ejus reversio nequaquam fieri possit."

*Conium maculatum, seu cicuta officinalis*, may be administered in physconia, phthisis, and tabes mesenterica, and is considered as one of the best remedies in all scrofulous affections; but Borda most decidedly condemns the simultaneous use of peruvian bark, considering scrofula never to be of an asthenic nature. The muriates of lime and barytes he looks upon as still more powerful contrastimulants, and highly useful in cases, for the cure of which cicuta is inadequate.

*Aconitum Napellus*. — Borda, of late years, has used the extract of aconite in rheumatic, gouty, and syphilitic pains, consequent to mercurial frictions. He praises it, as one of the most valuable remedies in relieving morbid secretions of the trachea and bronchia. "Crebro etiam obstupui animadvertens extractum aconiti nedum sputorum redundantiam

ocissime repellere, sed naturam eorum ita immutare, ut mihi omnem præperceptum abstergeret metum proximæ desperationis phthiseos, cui mors, quasi saxum Tantalæ, impendet." The extract varies very much according to the method in which it is prepared, nor do we seem well acquainted with the circumstances on which this difference depends; but the following example will illustrate the fact:—Ten patients were received into the hospital of Pavia\*, threatened with phthisis pulmonalis, for whom the extract of aconite was ordered in doses suited to their several cases. One was taking half a dram at a dose; they all bore the medicine without any inconvenience, and their general appearance, indeed, gave hopes of their ultimate recovery. All the extract, however, prepared in the hospital being consumed, a fresh quantity was procured from the shop of an apothecary, and administered in similar doses. Every appearance of recovery vanished under the influence of this new preparation, and mental affections of the most alarming nature supervened, accompanied with other distressing symptoms. The hospital presented a scene of the utmost consternation. Borda flew to the spot; and considering the situation in which the patients were thrown as produced by the action of a powerful contra-stimulant, he determined on meeting it with an active remedy of an opposite character. Laudanum was administered; and, in the presence of a great concourse of pupils, he had the pleasure of witnessing the gradual and perfect restoration of his patients. The same extract, in a diminished dose, was prescribed the following day.

*Gratiola Officinalis*.—The result of many observations has confirmed Borda in the opinion, that many dysenteric complaints, that do not yield to our ordinary remedies, may be cured by *gratiola*. He has also ordered it in many intermittents, which, so far from being relieved by peruvian bark, were aggravated by its use. When the diathesis is violent, *gratiola* produces neither vomiting or purging; and, in intermittents of a sthenic character, may be exhibited in powder, in doses from four to six grains, gradually increased, according to the degree of excitement and the constitution of the patient. The decoction is equally efficacious. *Gratiola* is considered as more powerful than any other antidysenteric medicine; and Borda has, therefore, relinquished the use of *ipogæacuan*. On the whole, it is an active contra-stimulant, and may be employed in mania, and other complaints where we wish to subdue a strong diathesis of stimulation.

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\*In the hospital at Pavia, the medicines are usually repeated every three or four hours.

*Hyosciamus Niger*.—The first object of Borda, in his observations on *hyosciamus*, is to combat the opinion of those who consider that its action is analogous to that of opium. He contends that it operates in a manner diametrically opposite; that it produces sleep, calms convulsions, and allays pain in diseases of excitement, by a contra-stimulant action, while opium produces similar effects in complaints of an asthenic diathesis by its power of stimulating. He employs it more particularly in spasmodic and inflammatory coughs, whether consequent on long-continued peripneumonies, or attendant on nervous patients. “*Casus autem, in quibus hyosciamus remedium præsentissimum, est phthisis ab immodica bronchiorum motilitate caussata, cui adsocietur sicca tussis iniquies cum dolore versatili in regione thoracis, cui nulla recreatio sanguinis extractione, tum topica, tum universa.*”

*Digitalis*.—Borda considers this medicine as one of the most valuable of which the materia medica can boast; and, induced by the example of Withering, and its extensive employment by other English Physicians, he determined on ascertaining, by experiment, the respective powers of the different species of this herb, viz. the purpurea, lutea, ambigua, and lanata, or epiglottis, as it has been called by Brua.

He says, “In the purpurea it is evident that all the well-known powers of the medicine are concentrated. The lutea is next in rank. It shows considerable contra-stimulant powers, and may be used in dropsies, catarrhs, and peripneumonies, and also in various complaints affecting the lymphatic, nervous, and arterial systems, in which, however, the peculiar virtues of the purpurea exceed my powers of commendation. I cannot bestow much praise on the ambigua, which, in fact, can boast only of the name of digitalis.”

His experiments on the epiglottis convinced him that it also possessed very powerful diuretic qualities, and that it even manifested the strong contra-stimulant powers, and produced the fatal effects flowing from either a too liberal use of the purpurea, or from its being administered in a diathesis of contra-stimulation.

This last observation may, perhaps, furnish us with a new guide, when examining into the powers and doses of medicines and poisons. If the capability in the system of tolerating contra-stimulants be in the ratio of the excitement present, experiments on living animals, made in reference to the employment of any poison, in a state of disease, will be chiefly serviceable in determining the minimum dose, the point from which we may start with safety. But the same

gibles may, perhaps, demand, whether the foreign physicians  
 some of them have made of digitalis a symptomatic medicine  
 diahoretic; has not been empirically indiscriminately and  
 untold, conducted without a landmark or a compass and only  
 limited in mischief by the apprehensions excited in the  
 appearance of certain deleterious effects which render it  
 dangerous to use it in any quantity. It is, however, a  
 very valuable medicine in the hands of a judicious physician.  
 An Account of the New Italian Theory of Physic. By  
 Giacomo Tommasini, Professor of Medicine in the University of  
 Padua. This work is offered to the public in the form of a lecture  
 as it was delivered by the professor, introductory to his  
 course of clinical instruction. The substance of the doctrine  
 may be contained in a very few simple propositions, and the  
 early, Mr. Mantovani, might, perhaps, have been employed  
 more advantageously for the purpose of presenting to our  
 readers with a detail of its principles. This, however,  
 however, although more concise, does not so fully comprehend  
 the dependence of the new doctrine on that of Brown, which  
 having been published at a time when the system had become  
 familiar, and made a numerous host of converts, it seems  
 quite possible that the reader is acquainted with the language  
 and philosophy of the day. On the other hand, Tommasini  
 appears to be deeply engaged in overthrowing certain  
 parts of the Brunonian doctrine, as in detailing the principles  
 of his own; and this circumstance, at the present day, may  
 render his lecture less interesting. It should, however, be  
 recollected, that on the first promulgation of the doctrine of  
 contra-stimulation, Brunonian principles exercised so con-  
 sensitive a way in many of the universities of Italy, that it  
 became necessary, on that account, that the professors, in  
 engaging the new theory on such parts of the old doctrine  
 as were suffered to remain, should fight his way step by step, and  
 and hostilely proselytes to his own doctrine, by pointing out  
 the absurdities of that which had preceded it. A famous  
 letter to Mr. Beddoes, from Pavia, in 1788, says, "that this  
 university, undoubtedly one of the first in Europe, where it  
 is mostly a student, employed with talents, who are some of  
 Brunonian and Brown in high esteem with some of the most  
 respectable professors; and in other parts of Italy, leaving  
 again, from my own knowledge, that old Physicians have not  
 refused their sanction to many of the Brunonian principles. I  
 am, however, myself, continued practicing the doctrine of  
 Brunonian and Brown, and I am sure that the adoption  
 of the principles has been adopted as a means of curing  
 many very early period. Diseases, however, his patients  
 on the other hand, seem to be the most judicious application  
 of the doctrine of contra-stimulation, which ought to have served

their progress, and reduced the excitability to a healthy standard. Observing the practice of others, he found that older Physicians, satisfied with walking in the path of their predecessors, and even empirics, were more fortunate than he was. In vain did he question himself concerning these results, which rendered his mind unhappy, and manifested themselves in contradiction to all the principles of sound practice. In conference with his brethren, he was involved in angry disputations and irreconcilable quarrels; and he draws the picture of an Italian consultation, in terms which, in the minds of some of our readers, may perhaps awaken dormant recollections.

I remember to have been several times in consultation with Physicians of the old school, during the period in which, like most other young men, I was strenuously attached to the principles of the Brunonian doctrine. How great was the difficulty of uniting our sentiments! What a decided opposition between the plan of cure, and the remedies proposed by the several parties! On one side, purgatives, diluents, cooling medicines to bring down the strength; on the other, corroborants, tonics, and stimulants, were insisted on. Here, blood-letting, manna, tamarinds, saline drinks, and cathartics; there, ether, musk, ammonia, wine, and opium. Such was the contrariety of opinion, that conciliation was impossible; and it became necessary either that one of the consulting parties should give in altogether, or else, each resolving to mix up something of his own in the prescription, a farrago was compounded, containing drugs of opposite and contending qualities, one annihilating the effects of the other.

The appearances after death in patients who had died of nervous fevers, and in whose brains evident marks of inflammation were detected, joined with the unfortunate issue of his mode of practice, induced Tommasini to abandon the Brunonian doctrine entirely. Rasori's work on the petechial fever of Genoa, was published in 1800, and in this we perceive the first hints of the contra-stimulant theory. At this period, Tommasini's mind was evidently prepared to give a welcome reception to a doctrine which, preserving several fundamental principles formerly regarded as sacred, may also be said to have *inverted* and given a different direction to others, rather than to have changed or abandoned them. Still, however, it must be acknowledged, that real and important alterations were proposed, and that a total change in the *methodus medendi* became the necessary consequence.

Tommasini commences his account of the new medical doctrine by observing, that it may, with more propriety, be termed the union of those pathological ideas, and

of those practical and therapeutic views which are daily diffusing themselves: it forms an epoch, he says, and will, doubtless, occupy a distinguished rank in the annals of medical literature. It draws its origin from Iolism and Brunonianism, and boasts a simplicity, unknown even in the systems of Hoffman, of Baglivi, or of Cullen, disentangling itself from many hypotheses, and unproductive speculations, that for a considerable time kept the followers of these illustrious teachers in a state of strange agitation, seduced them into the discussion of occult causes, and called away their attention from experience and induction. The new doctrine, besides, is well adapted to inspire confidence at the bedside of the patient, being unincumbered with abstractions, and matured in hospitals, rather than in the closet. It is granted, that the more general principles of Brown's theory are deduced from facts; such, for example, are his ideas of life, and his simple classification of diseases, and the high importance which he attached to the study of diathesis. Hoffman, Baglivi, and Cullen, had previously thrown light on the road which the energy and vigour of Brown's mind afterwards opened and made plain; and without the *Elementa Medicinæ*, the corner-stone of the new doctrine would never have been laid\*.

This doctrine is founded on the destruction of two Brunonian idols, the objects of general adoration down to the concluding year of the last century. The first is the identity of action in all powers operating on the living fibre; this being, in every instance, stimulating, and varying only in degree. The second is the doctrine of indirect debility, or of a diminished excitement, occasioned by an excess of stimulation, and the appealing to this state as the cause of the greater number of diseases. The discovery of a contra-stimulant action showed the fallacy of the first proposition; and the great preponderance of diseases of excessive, over those of diminished excitement, being clearly ascertained, the latter proposition also fell to the ground. After pursuing this subject at some length, Tommasini proceeds to offer a compendium of the new doctrine, comprised within a few propositions. These are the following:—

1. That many substances act on the living fibre in a manner directly opposed to that of stimulation; and that

\* How different is this from the view that Alibert has been pleased to take of the same subject. In his account of this philosophy, he has inserted all that Bacon would have omitted, turning his attention only to those failings of the man, on which Scarron, in his more ungracious mood, would have dwelt on with delight.

those effects, which Brown attributed to a negation of stimulants, to be ascribed to the positive action of contra-stimulants.

3. That contra-stimulants have the power of subduing, even without any evacuation whatever, the effects of an excessive excitement; and that when they are too liberally applied, diseases are produced, which the administration of stimuli alone can relieve.

4. That we have in the class of contra-stimulants a set of remedies adapted to the cure of every morbid condition resulting from excessive stimulation; and which may be used like blood-letting or purgatives.

5. That the capability of the fibre to support large doses of contra-stimulants or of stimulants, is in proportion to the increased degree of diathesis present, whether occasioned by sthenic or asthenic powers.

6. The discovery that this capability of supporting contra-stimulants, affords a juster measure of the intensity of the diathesis than any that can be collected from the symptoms themselves. There are, however, three other points belonging to the doctrine, not comprehended in the above, which Tommasini is at great pains to elucidate, in several parts of his lecture:—

1. That inflammation is invariably of a sthenic nature, and always consists in excessive excitement.

2. That a degree of contra-stimulation, more or less durable, is inherent and essentially connected with pain.

3. The distinction between diseases of excessive or defective stimulation, and those arising from a mere disturbance of particular parts, or from irritation\*.

The author continues his refutation of Brown's doctrine of indirect debility, points out the absurdity of supposing that a necessity of using stimuli can arise as the consequence of the abuse of stimuli, and deplors the mischiefs that have resulted from considering indirect debility as the cause of the greater number of diseases. The idea of an asthenic inflammation, or of an inflammation connected with a deficiency of stimulation, here presents itself, and the following is our author's manner of viewing the question.

Certain inquiries led me, in 1805, to declare, that every inflammation is in its nature essentially sthenic, or a process of increased stimulation, and that we should not be induced to consider it as connected with asthenia, from the circumstance of our seeing it occasionally take

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\* This part of the theory has been particularly illustrated by Rabini and Fanzago. We wish to recommend strongly to our readers the *Institutiones Pathologicae* of the latter.

place in weak and debilitated subjects. He then also  
attempted to seek for the causes of many diseases usually  
supposed to have no relation with phlogosis, in an inflama-  
tory action, not, indeed, displaying itself as the main  
excitement, but remaining concealed and unobserved until  
its effects became irremediable. The same inquiry obliged  
him to look on the fever accompanying the phlegmatic  
as the cause, but as the consequence of the local  
inflammations connected with this class of disorders, and  
to trace the origin of certain acute and long continued fevers,  
the phlebotic fever, for example, typhus, the yellow fever, and  
the fever attendant on tubercle, to those phlogistic processes  
discoverable in the bodies of patients dead of these diseases.  
By thus discovering a phlogistic character in the greater  
number of diseases, acute and chronic, in typhus, yellow  
fever, the gastric fever, as well as in slow fevers, venereal  
affections, phlegmon, cutaneous and glandular  
complaints, and also in many others generally looked upon  
as purely spasmodic; and by demonstrating that inflammation  
originates in an excess of excitement, and that it is at all  
times essentially the same; the influence of indirect debility  
as productive of those complaints, immediately disappears,  
and the catalogue of diseases really hyposthenic, and curable  
by stimulants, is reduced to an inconsiderable number.  
Another error, bearing every resemblance of truth, prevailed  
in the theory of Brown. It is that of inferring the nature of  
the diathesis, or the kind of disease, from the mode of action  
of the remote causes. Nothing, indeed, appears more plau-  
sible than the conclusion, that any disease whatever, pro-  
duced by an excess of stimulating powers, is hypersthenic;  
and, on the contrary, that those occasioned by excitement  
cold, and fear, are of an hyposthenic nature; and from the  
difficulty of determining the diathesis from the symptoms  
alone, it would, indeed, afford a great assistance, could we  
have recourse to this criterion in such a manner, that we  
could not possibly suspect the diathesis of excitement, when  
all the remote causes had been of a contra-stimulant kind,  
and vice versa. Such, in fact, was the induction which  
Brown made with perfect fairness; and, as, in the course of  
life, the greater part of mankind are exposed principally  
to the action of debilitating powers, as want, misery, moisture,  
cold, and certain depressing passions; so, in addition to those  
debilitating powers of an opposite kind, producing indirect de-  
bility, he further justified his opinion of the great preponder-  
ance of hyposthenic disease by the directly debilitating operation of  
many morbid agents; but facts ought to have been examined  
with impartiality, and on them, as a surer foundation, than

principles not well established, should we form our etiology, and our classification of diseases. A numerous class of disorders of too stubborn a description even for Brown himself intend, stood in opposition to this plausible theory; rheumatism, for example, pleurisy, inflammation of the brain and of the lungs. These diseases succeed to the action of colds and moisture; a violent inflammatory fever develops itself after a cold fit of a longer or shorter duration only curable by repeated bleedings; and, in many cases, without our being able to trace it either to the posterior or intermediate agency of stimuli. That dull inflammation of the liver, slowly forming itself as the consequence of depressing passions; the strong arterial action supervening to terror, and the threatening progressive organic mischief, when not arrested by blood-letting; puerperal peritonitis, believed by the Brunonians to be of an asthenic nature, in consequence of the great loss of blood and the sufferings that precede it, but which dissections have clearly ascertained to be of a phlogistic nature: these, and many other diseases, place the fact beyond a doubt, that diseases of increased excitement may be occasioned by debilitating powers. Facts so convincing render it altogether impossible to infer the asthenic nature of a disease from the causes producing it, and I think we may also conclude, that during a state of the lowest depression of the vital powers, let the means be what they will, sparks of a phlogistic diathesis may be kindled and excited into action. Tommasini endeavours to distinguish this operation from that of the vires medicatrices, by calling it a power creative of a diseased condition opposed in kind to the causes that preceded. He considers, in the next place, those changes in the diathesis of excitement by which the system, during the very progress of an inflammatory process, is suddenly thrown into a state of temporary contrastimulation. To this succeeds a disquisition on the nature of pain, which Tommasini refers to a greater or less state of contrastimulation. His ideas on this subject are, perhaps, peculiar to himself, and not sufficiently matured. He has, indeed, composed a treatise on pain, but the publication has hitherto been delayed. Some observations on irritation, accompanied with copious notes, conclude his exposition of the doctrine. In order, says the Professor, to perfect the elements of a useful reform in pathology and the practice of medicine, it still remained to place in a clear light the morbid condition of the fibre known by the name of a state of irritation; a state not to be confounded with stimulation, being in truth produced by powers incapable in any dose, or under any circumstances, of creating a rightful excitement. These

power, equally distinct from stimuli, and their abstraction, as from contraindicants, had already been contemplated by Brown, in chap. 8. of the fifth book of his *Elements*. It appears from the few but important remarks of that profound author, that he considered as irritants all those powers and conditions capable of disturbing and agitating, but not of stimulating or depressing; and that he looked on the local affection as incurable, either by the addition or subtraction of stimuli, and only to be relieved by the cessation of the local disturbing action, or by the expulsion of the irritating matter. But the doctrine of irritation has received still farther improvement from the profound searches of Rubini. He has proved not only that the action of irritants is confined by their powers of disturbing the system, and never exert an influence over the excitement of Brown, but he has also described the distinguishing characters of the diseases of irritation; and he is of opinion that a third diathesis may be found in this morbid state of the fibre; a diathesis neither implying an excess or a defect of stimulus, but merely a change of mode, or a discordance in the general movements. If I do not so far agree with my learned friend as to acknowledge this third diathesis, it is, 1. Because the diseases either of a sthenic or an asthenic diathesis, remain permanent, and survive the causes that produced them in such a manner, that, although they should cease to act their effect, the diathesis still continues in all its force, and even increases in violence: on the contrary, it is the nature of irritative diseases to cease whenever the irritating cause is removed, or, at least, to abate very soon afterwards. 2. Because the diseases of diathesis may be cured by compensation, those of a sthenic kind by blood-letting, the asthenic by stimuli, the cause which produced them still existing, while those of irritation are not wholly cured unless by the removal of the irritating cause itself. But although I cannot recognise the features of a diathesis in irritative affections, I have adopted the more useful applications of this theory to pathology and practice; and I have shown, in my treatise on diseases of diathesis, and "those rendered universal by the diffusion of a local excitement," that processes capable of influencing the excitement, and of creating a diathesis, may spring up as the effects of a local action, disturbing, in any way, the well-being of the organization.

Tommasini afterwards alludes to the opinions of Monteggia, Bondioli, and Fanzago, on the subject of irritation, and in notes of some length explains his own ideas by a reference to diseases. Fearing, however, that our readers may have already exhausted their patience, we shall close the present

sketch with the idea of life, proposed by Gelmetti, and approved by Tommasini. It is the result of the action of stimuli applied to the living fibre, and of the reaction of the fibres; and is therefore to be regarded as a state of continued violence that would soon bring about the destruction of the organization, were not its effects moderated by other agents. These are powers that directly depress the excitability, or diminish the intensity of stimulation; and they are named contrastimulants. When the excitement of the solids is justly balanced by contrastimulants, health is the effect, the organization being supposed to be perfect. If the organization of any part be injured, or if the quantity of stimulation, or of contrastimulation be excessive, the one not exactly counterpoising the other, diseases are the consequence; and these are either organic, hypersthenic, or hyposthenic.

## PART V.

# MEDICAL AND PHYSICAL INTELLIGENCE.

Mr. Gray has commenced his Botanical Excursions around London. The advantages of learning botany in the woods and fields have been constantly acknowledged as far superior to the study of the hydropic and hybrid productions of the garden, or the mere sight of pictured drafts, which are necessarily confined to the mere external appearance. This method has also the advantage of affording a healthy and invigorating exercise, and an agreeable relaxation. In the first excursion, near one hundred plants were collected, several of which were useful in medicine.

## NOTICE OF LECTURES.

Mr. Edward Grainger will commence his Summer Course of Lectures on Anatomy and Physiology, at his Rooms, 19, St. Saviour's Churchyard, Southwark, on Friday, June 1, 1821, at twelve o'clock. The Lectures will afterwards be delivered daily, at seven o'clock in the morning. Prospectuses to be had of S. Highley, 174, Fleet-Street.

## LITERARY NOTICES.

Dr. Dickinson has in the press the Medical Student's Vade-Mecum; being a work in the form of question and answer; comprising Anatomy, Physiology, Botany, Pharmacy, &c. &c. To which will be added, a correct and abridged Explanation of the Chemical Decompositions; intended principally for gentlemen previous to their examinations at the Surgeons' and Apothecaries' Hall.

In the press, and shortly will be published, an Appendix to Orfila's System of Toxicology; containing all the new matter recently edited by the author, and his 22 plates, beautifully coloured from nature, of the poisonous plants and insects, including all the species of the fungi described in the larger works. Printed to correspond with the late edition of the Toxicology 2 vols. 8vo.

## Extract of Bark.

TO THE EDITORS OF THE LONDON MEDICAL REPOSITORY.

GENTLEMEN, — Agreeably to my letter of the 14th of March, which appeared in your last Number, I proceed to describe the process by which I obtain extract of bark; being the process by which I obtained the specimen which I had the honour to present to the Royal College of Physicians on the 27th of March, 1820.

One pound and a half of heavy, middling-sized silvery quilled lancifolia bark, slightly broken, but *not bruised*, was continued in one gallon of distilled water two hours, in a sand bath, at the temperature of one hundred and seventy to one hundred and eighty degrees, being now and then agitated. This process was repeated, in immediate succession, four times. The fluid which was poured off on the first operation, was transparent when hot — turbid when cold. A similar result was observed on the second and third operations; but successively decreasing in the turbid appearance when cold. Upon the last operation, the fluid was only slightly tinged with yellow; and, when cold, not in any degree turbid.

The four several and successive portions of fluid thus obtained, being embedded in an evaporating pan, at the temperature of one hundred and eighty to one hundred and ninety degrees, until the evaporation left an extract, weighing three ounces and a quarter, of a beautiful bright red colour, retaining the sensible properties of bark in great perfection.

That the extract thus obtained is not changed in the process of evaporation, becomes evident upon the addition of water to the extract, when the same sensible properties which the four fluids, when combined, exhibited before that process commenced, will again be found in the fluid state. From eight to ten grains in one ounce of extract may be expected to be found insoluble, say about one fiftieth part, being chiefly reticular or woody matter, the introduction of which I have not been able more effectually to prevent.

After this plain and simple exposition of the process which I use in procuring extract of bark, and in alluding to which, I have not, at any time or place, uttered or written a word to justify any varying representation or statement, the following passage from the third edition of Dr. Paris's work, the "Pharmacologia," cannot fail to excite feelings of surprise and regret:—

"Spirituuous or resinous extracts.—These may contain, with the exception of gum, all the ingredients contained in watery extracts, besides resin. Their composition, however, will greatly depend upon the strength of the spirit employed as the solvent; but of this I shall speak more fully, under the article tincture. Mr. Battley, a wholesale Druggist in Fore Street, London, is in the practice of preparing resinous extracts, without the intervention of any solvent, except water. His method consists in submitting the plant, after it has been well bruised and pressed, to the operation of long-continued decoction; by which the soluble parts are extracted, and the insoluble matter is separated and procured on the surface of the liquid, in the state of a finely-divided powder: this is removed, and when the soluble parts have, by evaporation, acquired the consistence of a syrup, the insoluble part is then intimately mixed and incorporated with it. We have, certainly, in this preparation, all the elements of the plant, which water and spirit could have extracted; but have we them in the same state? and are they calculated to produce the same medicinal effects? I feel some hesitation in answering this question. It surely cannot be one and the same thing, whether an active resinous element be mechanically mixed with an extractive mass; or whether all the ingredients be at once obtained by the evaporation of a spirituuous menstruum, in which they were previously chemically combined.

The extracts obtained by Mr. Battley's process, must be less pure, as

Extract of Bark.

well less soluble in the prime; and I apprehend that they will, if purgative, be more liable, on such an account, to operate with griping and distress. Agreeably to my former statement, I have not been able to procure any more of this substance.

In the present edition of this work, the fourth, this statement is completely corrected, but without any explanation whatsoever.

Of the Pharmacologia of Dr. Paris, I avail myself of this occasion to observe, that its texture throughout is little better than in the unfortunate instance now quoted; and in reference to this work, in 1809, 1810, the observation of Lord Chief Justice Dallas in addressing a jury of London merchants at Guildhall, in a recent cause, "Severn, King, and Co. against the Imperial Insurance Company." In commenting upon the discrepant evidence which the Court had received from some of the most distinguished Chemists in the country, the Lord Chief Justice remarked, after some civil expressions, "that the two days employed in taking such evidence, were not days of triumph, but days of humiliation for science." and I would venture to remark, in the same spirit, upon such a work as the Pharmacologia having gone into a fourth edition.

In proof that the process which I use in obtaining extract of bark is effectual to its object, I have boiled part of the dried residuum, namely, eight grains in four ounces of alcohol; several minutes, which had the effect merely of imparting a tinge of pale straw colour, approaching to green; and did not exhibit any of the properties of bark, either in taste or smell. Upon being again dried, this residuum had lost in weight about eight grains.

Even by the extreme action of heat, only a trifling exhibition of the sensible properties of bark were produced.

Having added eight pints of distilled water to eight ounces of the same residuum in Papin's digester, plunged in a sand bath, afterwards heated to five or six hundred degrees and continued for three hours, I found the fluid tinged of a straw colour, and in some degree possessing the sensible properties of bark. After pouring off the liquor, the residuum was dried; and had lost about one dram out of the eight ounces.

The decoction, upon evaporation, left a substance of a dirty brown colour, weighing thirty-four grains, which being boiled several minutes in two ounces of alcohol, the alcohol became of a dark deep red colour, resembling Port wine. Having passed the filter, the residuum was again boiled in alcohol, which was followed only by the slightest tinge. Sixteen grains remained after this last process, being of an earthy appearance; without any other than an earthy taste and smell.

The evulgence, therefore, is as complete as can be desired, that water, really applied, is sufficient to the purpose of extracting all but a very slight portion of the sensible properties of bark, without bringing in any other substance. My conception upon this subject, and which I wish distinctly conveyed, is, that the deposition, or medicinal property, lodged between the cellular and cutis, in the rete mucosum; and that water, sublimated, receives the extract, and matter so deposited without any change in the object. I have had in view in procuring extracts of bark of various kinds; and I am persuaded that I have not failed in my purpose. I have now, however, much engaged in obtaining extracts from, and imbedding in, various vegetables, the processes which I use in respect of bark, and have been at the laboratory of St. Thomas's Hospital, the cause of the error, and upon the same occasion I shall practically discuss the subject, and answer this question. It surely cannot be one and the same substance, whether an active resinous element mixed with once obtained by the evaporation of a resinous matter, and which they were previously chemically combined. London, May 15, 1821.

As Mr. Battley's process must be less pure, as

# A METEOROLOGICAL TABLE,

From the 21st of APRIL to the 20th of MAY, 1821.

KEPT AT RICHMOND, YORKSHIRE.

D.	Barometer,		Therm.		Rain Gauge.	Winds.	Weather.
	Max.	Min.	Max.	Min.			
21.29	70.29	60	58	32		NE.	1 Sun... 2 Cloud... 4 Star...
22.29	58.29	44	53	34		E.S.E..	1 Sun...
23.29	19.29	04	53	34	12	NE.	13 Cloud.. 2 Sun.. 4 Rain..
24.29	32.29	24	62	40	01	N.E.S.W..	1 Mist... & R. 2 S. 4 St...
25.29	44.29	39	63	46	43	SW.Vble.	1 S... 3th... lig... & R... 4 St...
26.29	47.29	43	67	48	01	NW.NE.	1 Sun... 3 Cloud... 4 R. Lig..
27.29	43.29	42	61	51	03	N.NNE.	1 Rain. 24 Cloud... 3 Sun...
28.29	55.29	58	68	47		W.WSW.	1 Sun...
29.29	75.29	69	69	45	01	NW.NE.	13 Cloud.. 2 Sun.. 4 Rain.
30.29	77.29	70	59	36		N.NE.	1 Cloud... 2 Sun.. 3 Sun...
1.29	59.29	54	60	37		Vble.	1 Sun...
2.29	52.29	43	66	43		SW.NE.	1 Sun.. 4 Mist...
3.29	39.29	39	64	49	12	SE..	13 Mist.. 2 Sun.. 4 Rain..
4.29	35.29	29	70	42	01	SE.	1 M... 2S... 3Th.. Ltg. & R. 4st...
5.29	09.29	01	70	47		SW.SE..	1 S... 2 Cloud.. 3 S. 4 Cl...
6.29	28.29	20	62	40	17	SW..	1 Sh. of R. & S. 3 Sh. of H..
7.29	33.29	33	63	48	03	SW...	1 Cloud... 2 Sun.. & Show.
8.29	62.29	62	59	41	02	SW..	1 Sun... 4 Moon... & Show.
9.29	77.29	70	57	38		SW..	1 Sun...
10.29	66.29	58	56	47		SW..	1 Sun... 2 Cloud..
11.29	37.29	34	63	45	09	W..	1 Sun. 3 Rain.
12.29	17.28	08	58	40	07	W..	1 Sun.. & Show.
13.28	08.28	06	54	37	45	SW.N.	1 Sh. of r... Hail. S. & Th.
14.28	97.28	82	58	34	43	NW.Vble.	1 Sup.. & Show...
15.29	18.29	04	46	36	61	NE.NW.	1 Rain... 3 Sun... 4 M...
16.29	49.29	43	55	36	07	WSW..	1 Sun... & Sh. of h. & r. 4 M....
17.29	52.29	50	59	37		SW..NE..	13 Sun... & Sh. of h. 4 M....
18.29	82.29	76	59	34	44	NW.NE.	1 Sun... 2 sh. of r... & th... 4 M....
19.29	86.29	84	61	34	09	W.N.	1 Cloud.. 4 Rain.
20.29	86.29	82	57	30		NW.NNE.	1 Sun.. & Show. 4 Star...

The quantity of rain during the month of April was 2 inches 55-100ths.

## Observations on Diseases at Richmond.

The disorders under treatment were, Anasarca, Atrophia, Catarrhus, Diarrhoea, Erysipelas, Febris catarrhalis, Febris continua, Gonorrhoea, Hydrocephalus, Nephritis, Obstipatio, Odontalgia, Paralysis, Peritonitis, Scabies, Syncope, and Vaccinia.

# THE METEOROLOGICAL JOURNAL,

From the 19th of APRIL, to the 20th of MAY, 1821.

By Messrs. HARRIS and Co.

Mathematical Instrument Makers, 50, High Holborn.

D.	Mo.	Rain.	Therm.			Barom.			De Luc's Hygrom.		Winds.		Atmo. Variation.		
20		.19	45	61	40	29	57	29	66	60	65	SSW	E	Rain	Th.
21			44	60	39	29	75	29	87	55	56	NNE	E	Fine	Clo.
22			42	58	42	29	96	29	81	59	60	E	ENE	Fine	
23		.09	47	65	48	29	70	29	42	62	60	E	E	Fine	Rain
24			50	67	50	29	53	29	67	60	60	SSW	SSW	Fine	
25	D		55	69	58	29	70	29	77	57	60	E	ESE	Fine	
26		.07	63	71	57	29	80	29	70	58	56	E	SE	Fine	High.
27			60	65	58	29	72	29	84	58	58	WSW	WSW	Clo.	Fine
28			60	68	53	29	86	29	84	56	55	ESE	E	Fine	
29			57	59	49	29	87	30	00	56	56	ENE	NNE	Fine	Clo.
30		.02	52	56	48	30	05	30	08	56	57	ENE	ENE	Clo.	
1			50	58	49	30	03	29	94	56	57	NNE	NE	Clo.	Fine
2			51	60	53	29	86	29	81	57	56	NE	S	Fine	Clo.
3			56	62	54	29	75	29	70	57	58	SSW	E	Clo.	Fine
4			57	65	55	29	71	29	73	58	58	ESE	SW	Fine	
5			59	68	50	29	64	29	51	58	57	SW	SE	Clo.	Fine
6		.15	53	62	47	29	60	29	64	57	57	SW	SSW	Fine	Rain
7		.09	50	60	43	29	81	29	93	57	58	SW	SSW	Fine	Sho.
8	C	.26	50	63	48	29	99	30	11	57	57	WSW	WSW	Rain	
9			55	68	50	30	17	30	19	55	56	SW	SW	Fine	
10			58	63	55	30	25	30	18	53	55	W	SW	Fine	
11			59	65	49	30	02	29	90	57	60	WSW	W	Clo.	Fine
12			51	64	43	29	87	29	51	57	59	WNW	W	Fine	
13		.05	47	59	43	29	43	29	40	60	60	W	W	Sho.	
14		.03	48	57	41	29	36	29	33	59	57	W	S	Fine	Sho.
15		.15	49	56	42	29	41	29	52	57	55	W	W	Clo.	Rain
16			50	55	40	29	76	29	98	55	60	SW	SW	Fine	Sho.
17	C	.29	51	57	41	29	99	30	11	60	59	W	NW	Rain	
18		.13	51	59	42	30	00	30	05	62	60	NW	NNE	Fine	Sho.
19		.02	49	52	42	30	13	30	20	60	57	NW	NNE	Fine	Sho.

The quantity of rain fallen in the month of April is 1 inch and 67-100ths.

## A REGISTER OF DISEASES

Between APRIL 20th and MAY 19th, 1821.

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Abortio .....	4		Furunculus .....	2	
Abstessio .....	10		Gastritis .....	1	
Acne .....	3		Gastrodynia .....	9	
Amaurosis .....	1		Gonorrhœa <i>pura</i> .....	3	
Amenorrhœa .....	8		Hæmatemesis .....	3	
Amentia .....	1		Hæmoptœ .....	6	
Anasarca .....	8	1	Hæmorrhoids .....	7	
Anorexia .....	1		Hemiplegia .....	4	
Aptha <i>lactentium</i> .....	1		Hepatalgia .....	4	
Apoplexia .....	5	3	Hepatitis .....	11	
Ascites .....	5	1	Hernia .....	3	
Asthénia .....	11		Herpes <i>Zoster</i> .....	2	
Asthma .....	13	2	<i>circinatus</i> .....	1	
Atrophia .....	2		Hydrocephalus .....	5	2
Bronchitis <i>acuta</i> .....	5	1	Hydrothorax .....	3	
<i>chronica</i> .....	10		Hypochondriasis .....	2	
Cancer .....	1	1	Hysteria .....	9	
Cardialgia .....	4		Impetigo <i>figurata</i> .....	2	
Carditis .....	6	1	Ischias .....	6	
Catarrhus .....	51		Ischuria .....	4	
Cephalalgia .....	22		Lepra .....	5	
Cephalæa .....	5		Leucorrhœa .....	8	
Chlorosis .....	2		Mania .....	1	
Chorea .....	3		Melancholia .....	1	
Cholera .....	10		Menorrhagia .....	7	
Colica .....	3		Morbi Infantiles* .....	34	
<i>Pictonum</i> .....	3		<i>Biliosi</i> * .....	15	
Convulsio .....	5	2	Neuralgia .....	2	
Cynanche <i>Tonsillaris</i> .....	14		Obstipatio .....	5	
<i>Parotidea</i> .....	7		Odontalgia .....	11	
Delirium Tremens .....	1		Ophthalmia .....	20	
Diarrhœa .....	10		Otalgia .....	3	
Dysenteria .....	4	2	Palpitatio .....	1	
Dyspepsia .....	18		Paralysis .....	4	2
Dystocia .....	1		Paraplegia .....	1	
Echyma .....	1		Peripneumonia .....	6	
Enteritis .....	3	1	Peritonitis .....	9	
Entrodynia .....	6		Pertussis .....	7	
Epilepsia .....	3		Phthisis Pulmonalis .....	27	6
Epistaxis .....	1		Pityriasis .....	1	
Erysipelas .....	11	2	Pleuritis .....	16	
Erythema <i>læve</i> .....	2		Pleurodynæ .....	3	
Febris Intermittent .....	14		Pneumonia .....	12	
<i>catarrhalis</i> .....	6		Podagra .....	2	
<i>Typhus mitior</i> .....	9		Porrigo <i>larvalis</i> .....	3	
<i>Typhus grav.</i> .....	3	1	<i>favosa</i> .....	2	
<i>Synochus</i> .....	14		Prolapsus .....	1	
<i>Puerpera</i> .....	3		Prurigo <i>mitis</i> .....	2	
<i>Remitt. Infant.</i> .....	8		<i>senilis</i> .....	2	
Fistula .....	1		Purpura <i>simplex</i> .....	1	

DISEASES.	Total.	Fatal.	DISEASES.	Total.	Fatal.
Rheuma <i>acutus</i> .....	14		Tic Douloureux .....	1	
<i>chronicus</i> .....	31		Tussis .....	1	
Roseola .....	1		Tympanites.....	1	
Rubeola .....	7		Vaccinia .....	22	
Rupia .....	1		Varicella .....	8	
Scabies .....	24		Variola .....	9	3
Scarlatina <i>simplex</i> .....	11		Vermes .....	12	
<i>anginosa</i> .....	7		Vertigo .....	6	
Scorbutus .....	1		Urticaria <i>febrilis</i> .....	1	
Scrofula .....	8		Total of Cases .....	790	
Syphilis .....	7		Total of Deaths .....	31	
Tabes Mesenterica ....	3				

\* *Morbi Infantiles* is meant to comprise those Disorders principally arising from dentition or indigestion, and which may be too trivial to enter under any distinct head; *Morbi Biliosi*, such Complaints as are popularly termed *bilious*, but cannot be accurately classed.

## Observations on Prevailing Diseases, &amp;c.

## MR. GAITSKELL'S Remarks.

THE fatal case of enteritis, in this month's report, happened to a healthy young man of twenty, and was attributed by him to neglecting the regulation of his bowels. It was produced by a very uncommon cause,—the twisting of a portion of the omentum round the ileum, its adhesion to the root of the mesentery, and consequent strangulation of the gut. The ileum and jejunum were found partially sphacelated—also a diffused inflammation over the peritoneum, and all the small intestines, with several adhesions. I have recorded, in my note-book, two cases of volvulus, by the late celebrated Professor, Dr. Monro, of Edinburgh; the preparations are in his museum; one where the ileum is strangulated by the appendix vermiformis—the other by the omentum. Dr. Monro remarked, at the same time, that volvulus was sometimes produced by the sudden discharge of the water in ascites, the ileum getting entangled in the omentum.

The symptoms in my patient were those of strangulated hernia; abdominal pain, vomiting, and constipation. Copious bleeding, both general and local, cold lotions to the abdomen, with tobacco injection, were sedulously employed, but without success.

## MR. BURGESS'S Remarks.

THE case of anasarca, was a woman who had been in the London Hospital for dropsy, and, having got better, was discharged by her own desire. Shortly after, her legs began to swell considerably, and she was admitted into this infirmary; she begged that her legs might be scarified; and, although it was against the reporter's wish, he satisfied her, by merely scratching each leg with a lancet in five different places. She lost a great quantity of water, and was very thankful it was done; in about eight days, however, inflammation began, which no remedy could abate; and at length gangrene, to a great extent, came on, which closed the scene in about twelve days after scarification.

All the cases of chronic rheumatism have been relieved by the colchicum seed wine. One of them, the most worthy of notice, was a man named James Connor, aged 35, a hackney coachman, who was admitted in this infirmary in August last, for a severe rheumatic fever, distressing cough, pains in his chest and all his joints, which was brought on by getting wet. In this case, copious bleeding, and the antiphlogistic plan, were employed, and the man recovered, but not sufficiently to be discharged. He remained in the house

for several weeks, without taking any medicines; at length pains of his knees, ancles, and shoulders became so distressing, and accompanied with general weakness, that he could scarcely go on crutches. In this state he remained for several weeks, during which time he took tonics, and a variety of other medicines, without any material relief. The patient at length became very urgent to go out to try an hospital; the reporter prevailed on him to stay a little longer, and then began to give him the colchicum wine, night and morning, for several days, varying the doses occasionally, and with so much decided benefit, that the man discharged himself the latter end of April, with only a trifling lameness in his feet, and has been seen following his employment. The reporter has not seen him since, nor does he know where he lives. This man was in the workhouse from August till April following; during which time he was, more or less, in a state of pain, and gradually recovered from the time he took the colchicum wine, which was about three weeks.

### Quarterly Report of Prices of SUBSTANCES employed in PHARMACY.

		s.	d.			s.	d.
Acheta Gummi elect.	lb.	4	0	Confectio stomatica	lb.	9	0
Adduct Ctricleum		25	0	— Aurantiorum	lb.	5	0
— Benzoinum	unc.	4	9	— Opil	lb.	4	6
— Sulphuricum	P. lb.	0	8	Confectio Rosae caninae		1	8
— Muriaticum		2	0	— Rosae gallicae		2	8
— Nitricum		3	6	— Sennae		2	6
— Aceticum	comp.	4	6	Emplastrum Lythae		4	6
Alcohol	M. lb.	5	0	— Hydrargyri		5	0
Aether sulphuricus		12	0	Extractum Belladonnae	unc.	1	6
— rectificatus		14	0	— Cinchonae		2	6
Alpes pyricae extractum	lb.	6	8	— Cinchonae resinorum		4	6
— vulgaris extractum		8	0	— Colocynthis		3	0
Alyssa radix exot.		1	8	— Colocynthis comp.		4	6
Alumen		0	6	— Conil		0	6
Aluminae Murias		2	0	— Elaterii		30	0
— Subcarbonas		2	9	— Gentianae		0	6
Amalgama dulces		2	10	— Glycyrrhizae	lb.	5	6
Ammoniacum (Gutt.)		7	9	— Hamamelidis	unc.	0	6
— (Lutimp.)		4	6	— Humuli		0	8
Asthenidia Flores		1	6	— Hyoscyami		1	0
Astragalus oxydum		6	0	— Jalape	1st. 6d. Res.	3	4
— sulphuretum		1	0	— Opil		5	8
Antimonium Tartarizatum		8	0	— Papaveris		0	8
Arsenici Oxydum		2	6	— Rhei		2	8
Assafetida Gummi-resina	lb.	6	6	— Sarsaparillae		2	0
Aurantii Cortex		4	0	— Tanacet		4	8
Arsenici Nitras	unc.	5	8	Ferri subcarbonas	lb.	1	4
Bakarium Peruvianum	lb.	24	0	— sulphas		1	6
Balsamum Toluense		50	0	Ferrum ammoniatum		54	0
Benzoinum elect.		8	6	— tartarizatum		4	0
Calamina preparata		0	6	Galbani Gummi-resina.		8	6
Calumbae Radix elect.		4	6	Gentianae Radix elect.		2	0
Cambogia		7	6	— Gentianae		6	8
Camphora		6	0	— Guaiaci resina		5	4
Canella Cortex elect.		3	6	Hydrargyrum purificatum		8	0
Cardamomi Sesina	lb.	8	6	— precipitatum album		4	6
Cascarillae Cortex elect.		2	6	— cum creta		10	6
Cassipoum	unc.	4	0	Hydrargyri Oxymurias	unc.	0	8
Cassia Rubra	oz.	20	0	— Submurias		0	8
Cassia Extractum	lb.	4	0	— Nitrico-Oxydum		0	8
Ceraecidii		3	8	— Oxydum cinereum		1	4
Cera alba		4	0	— Oxydum rubrum		5	0
— flava		3	9	— Sulphuretum nigrum		0	4
Cinchona cordifoliae Cortex (yellow)		6	9	— resorcin		0	8
— lanceolatae Cortex (pink)		10	0	Hellebori nigri Radix	lb.	2	6
— oblongifoliae Cortex (red)		12	0	— Scilla Radix		8	0
— chinensis Cortex		14	0	— Pulvis		1	4
Coccus (Coccinella)	unc.	2	6	— Jalape Pulvis		1	0
Colocynthis Pulpa	lb.	12	0	Kino		7	6
Copaiba		5	6	Liquor Plumbi subacetatis	lb.	1	3
Colchici Radix (sic.)		12	0	— Ammoniae		2	6
Crocus stigma	unc.	6	0	— Potassae		1	5
Cumini semina	lb.	1	0	Liniuntum Camphorae comp.		5	6
Cuprum ammoniatum		9	0	— saponis comp.		1	4
Cuspariae Cortex		3	0	Lichen		1	4

Lycopodium	lb.	12	0
Magnesia	oz.	10	6
Magnesia Carbonas	oz.	3	6
Magnesia Sulphas	oz.	0	6
Magnesia communis	oz.	5	4
Magnesia pod. (32.)	in gr. unc.	3	6
Mastiche	lb.	8	0
Myristica Nucis	lb.	10	0
Myrrha	lb.	8	0
Oleum	oz.	3	6
Opopanax gummi resina	oz.	23	0
Opium (Turkey)	oz.	5	0
Oleum Etherium	oz.	2	6
Amygdalarum	lb.	3	6
Amia	unc.	1	6
Antheridis	lb.	5	0
Cassia	lb.	7	0
Caryophylli	lb.	5	0
Cajuputi	lb.	5	0
Carui	lb.	1	6
Juniperi Ang.	lb.	3	0
Lavandule	lb.	3	6
Lini	cong.	6	6
Menthae piperite	unc.	3	6
Menthae viridis Ang.	lb.	4	6
Phenice	unc.	5	6
Ricini optim.	lb.	6	0
Rosmarini	unc.	0	9
Succini 2s. 6d.	rect.	5	0
Sulphuratum P. lb.	lb.	1	4
Terebinthina	lb.	1	0
— rectificata	lb.	1	8
Oleum Oleum	cong.	16	0
Oleum secundum	lb.	12	0
Papaveris Capsule (per 100)	lb.	2	6
Phiala subcarbonas	lb.	0	8
— Supracetas	lb.	2	0
— Oxydum semi-vitreum	lb.	0	6
Potassa Fusa	unc.	0	8
— cum Calce	lb.	0	6
Potassa Nitras	lb.	1	2
— Acetas	lb.	10	0
— Carbonas	lb.	3	6
— Subcarbonas	lb.	1	0
— Sulphas	lb.	1	2
— Sulphuretum	lb.	4	0
— Supersulphas	lb.	1	2
— Tartas	lb.	3	6
— Supertartas	lb.	1	4
Phlog. Hydrargyri	unc.	0	6
Pulvis Antimoqualis	lb.	0	8
— Contrayerva comp.	lb.	0	4
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## NOTICES TO CORRESPONDENTS.

*Communications have been received this month from Mr. Thompson, and Mr. Higginbottom.*

We have to apologize to several of our correspondents for delay in inserting their favours.

A Paper from Dr. Gregory will appear in our next Number on Confluent Small-Pox; and Mr. Wansbrough requests us to announce, that he is preparing for publication, in the *REPOSITORY*, a Case of Hydrocephalus in the Adult, attended with remarkable circumstances. In the next Number will also be renewed the series of Essays on Medical Improvement. We feel some reluctance in publishing a paper, which, while it reflects on a contemporary work, contains only the initials of the writer. Will the author either favour us with his name, or permit us to cross out the passages alluded to?

Respecting the merits of the individual about whom we are asked, we know nothing.

\* \* \* *Communications are requested to be addressed (post paid) to Messrs. T. and G. UNDERWOOD, 32, Fleet Street.*

THE END OF THE FIFTEENTH VOLUME.

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